Holden JACKAROO OWNER HANDBOOK

4WD Petrol and Turbo Diesel

Part No. 92022951

Vehicle Identification Certificate

Owner's Name.....
Address.....
Phone: Business.....Private.....
Town..... State.....Postcode.....
Reg. No.....Colour.....
Vehicle Model .....
V.I.N. (Vehicle Identification Number) .....
Body No.....Engine No.....
Chassis No. for Service Identification—on G.V.M. Plate .....
Trans. No.....Trim No.....
Rear Axle: Ratio(s) .....Type.....

MAXIMUM GROSS VEHICLE MASS

The maximum gross vehicle mass rating is stamped on the GVM plate attached to the body. Vehicles loaded within this rating and properly maintained will repay the owner in maximum performance with minimum operating costs.

Registered Tare Weight.....
G.V.M.R. (Gross Vehicle Mass Rating).....
Date of Acquisition .....
Odometer Reading .....
Selling Dealer's
Stamp & Signature.....

November 1983

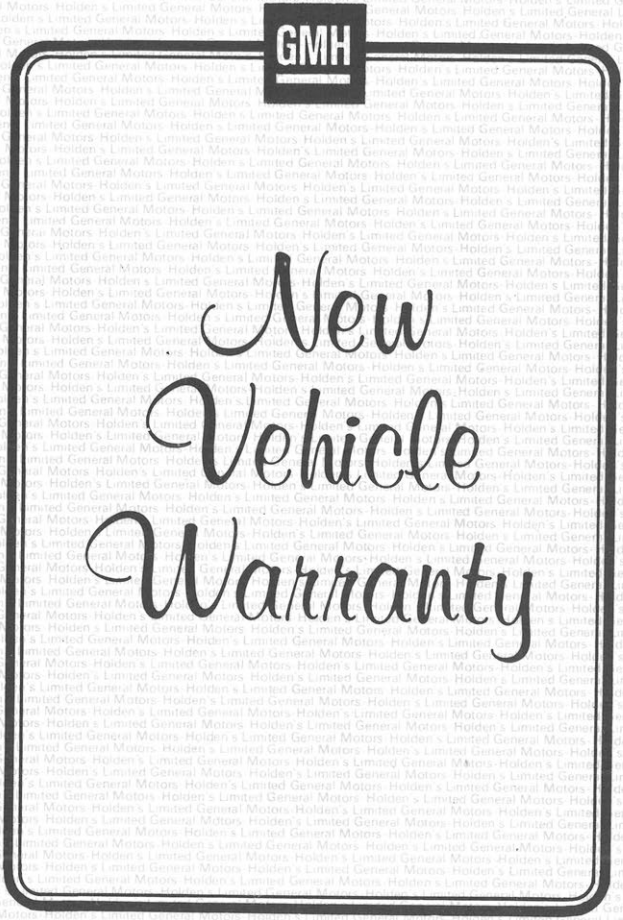
Refer to page 103 for Pre-Delivery Check and page 104 for Delivery Certificate.

Message from GMH

Thank you for choosing Holden. Your new vehicle is the product of many years research and planning. We are very pleased and proud of the result—as we are sure you will be. To understand your new vehicle fully, please take the time to read through this handbook and keep it in the vehicle at all times for quick reference. Full understanding of your vehicle's performance, warranty and maintenance procedures will add greatly to your enjoyment. On behalf of all here at GMH, may we wish you and your vehicle many years of happy motoring.

See inside back cover for ACCIDENTS (including medical).

This handbook contains important information necessary for the good performance and maintenance of the vehicle. Please leave it in the vehicle at the time of resale to assist the new owner.


GMH
New
Vehicle
Warranty

GENERAL MOTORS-HOLDEN'S SALES PTY. LIMITED

(Incorporated in Victoria)

New Vehicle Warranty

GENERAL MOTORS-HOLDEN'S SALES PTY. LTD. HEREBY WARRANTS THAT IT WILL MAKE GOOD, WITHOUT CHARGE, ANY DEFECT WHICH APPEARS IN THE VEHICLE IDENTIFIED IN THE VEHICLE IDENTIFICATION CERTIFICATE FOUND ON THE INSIDE OF THE FRONT COVER

Provided

1. the defect has been notified to an authorised GMH Dealer or Service Dealer:
   (a) before the vehicle has travelled a distance of 20,000 km, or:
   (b) within 12 months of the date of delivery of the vehicle to the first retail purchaser (or in the case of a Demonstrator vehicle within 12 months of the date when it was first placed into service by the Dealer)

   whichever comes first, and

2. the vehicle has been returned to an authorised GMH Dealer or Service Dealer

And

3. the Dealer has determined that the defect complained of *is* one of material or workmanship and *is not* caused by:
   (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc. or by neglect
   (b) operation of the vehicle after it is known to be defective
   (c) accident or deliberate act
   (d) atmospheric fallout or flood, hail, salt, etc.
   (e) failure to carry out proper maintenance service
   (f) alteration or modification of the vehicle
   (g) the fitting of parts or accessories not marketed by GMH
   (h) any work carried out on the vehicle by someone other than an authorised GMH Dealer or Service Dealer,

BY THE DEALER (or as otherwise decided by GMH Sales) MAKING GOOD THE DEFECT BY REPAIR OR, AT THE OPTION OF GMH SALES, BY REPLACEMENT.

Excluded from this Warranty are

- defects in tyres or tubes (these being warranted by their manufacturers), and services such as engine tuning, brake adjustment, replacement of air and oil filters, etc. which are required as part of normal vehicle maintenance.

This Warranty applies only to vehicles operated in Australia and is given to the person who is entitled to possession of the vehicle whether as owner, lessee or otherwise and is given in addition to all rights conferred by law on that person.

Owners of vehicles operated outside Australia should consult their local dealer regarding the warranty applicable to their vehicles.

Notice to Customers

No GMH dealer or other person is authorised or permitted to give or make any statement assertion or undertaking in relation to the quality performance characteristics descriptions or fitness for any purpose of any GMH product or in connection with the supply of any GMH product, which is at variance with any written statement assertion or undertaking on any of these subjects given or made by General Motors-Holden's Limited or General Motors-Holden's Sales Pty. Ltd. in its published sales literature, and neither company accepts any liability for any such unauthorised action.

General Motors-Holden's Limited and General Motors-Holden's Sales Pty. Ltd. have franchised dealers in many parts of Australia for the sale of service parts and the provision of service to owners of GMH's products. Every endeavour is made to ensure that such dealers carry adequate stocks of service parts, and are equipped to provide satisfactory service, but neither General Motors-Holden's Ltd. nor General Motors-Holden's Sales Pty. Ltd. makes any promise that such parts or service facilities will be available, or available at any specific location or any particular time.

GMH Parts and Accessories Warranty

General Motors-Holden's Limited warrants in respect of GMH parts and accessories required as replacement parts, that it will make good by repair or at its option by replacement any defect occurring in any such GMH parts and accessories within 3 months from the date of acquisition or in the case of a GMH part or accessory which has been installed in a vehicle by a GMH Dealer or Service Dealer before such vehicle has travelled a distance of 6,500 kms from the date of installation, whichever first occurs.

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HOLDEN GMH

See inside back cover for ACCIDENTS (including medical).

When it comes to servicing, remember that a GMH Dealer has the trained personnel and specialised equipment to correctly service your vehicle.

For the proper maintenance and performance of the vehicle use only quality General Motors parts which are identified by one of these trademarks.

The use of parts, additives or treatments other than those marketed by General Motors may be detrimental to your vehicle and may void your New Vehicle Warranty.

All illustrations and specifications contained in this handbook are based on the latest product information available at time of publication approval. The right is reserved to make changes, at any time, without notice, in prices, colours, materials, equipment, specifications and models, and to discontinue models. Check with your Holden Dealer for complete information.

Section 1: Getting to Know your Jackaroo

Running In

These days, there's no need to follow a rigid running-in schedule. However, if you observe a few simple points during the first few hundred kilometres of driving, you will add to the vehicle's future performance and economy.

For the first 500 kilometres, don't go over 80 km/h. Up to 1500 kilometres, avoid driving at any one speed—either slow or fast—for any length of time.

Include some higher speeds in your driving. This helps prolong the life of parts and helps with fuel and oil economy. But never drive at high speed until the engine is thoroughly warm.

Full throttle acceleration is not recommended before the car has done 3000 kilometres.

For the first 500 kilometres, heavy braking should be avoided, except in case of emergency since brake misuse during this period could impair future braking efficiency.

Also avoid heavy prolonged pulling in low gears for first 400 kilometres.

Fuel Economy Tips

How you drive, and where you drive have an effect on your fuel economy. The following pointers will help reduce your fuel bill.

Avoid:

Hard Acceleration.

Excess Loading Weight.

Stop-Start Driving. Plan your trips ahead.

Excessive Speed. You will save on your fuel bill by driving at 80 km/h instead of 110 km/h.

ENGINE IDLING:
If you have to wait for more than a few minutes, turning off the engine will conserve fuel.

HARD DRIVING IN BUILT UP AREAS:
Energy is wasted as heat when braking. Hard driving up to stopping points is wasting fuel, as energy in the form of fuel is needed to accelerate again.

AIR CONDITIONER OPERATION:
By using the vent setting, most of the advantages of the integrated air conditioning system can be obtained in cool and moderate temperature conditions while at the same time using the least amount of engine power.

Check:

Air Cleaner Element. A dirty air cleaner element reduces engine efficiency. Replace it at the required intervals.

Engine Tuning. An out of tune engine cannot give good fuel economy.

Tyre Inflation. Under inflation wastes fuel.

Wheel Alignment. Incorrect alignment makes the front wheels drag and puts an extra load on your engine.

Safety Checklist

Follow these simple steps before driving your new Jackaroo. They will help make your motoring safer and more enjoyable.

Before getting in

Check that the windows, mirrors and lights are clean.

Check the tyre inflation.

If you intend to reverse, check that the area behind you is clear.

Before driving off

Be sure you understand your vehicle and know how to operate it safely.

Be sure that all doors are securely fastened.

Position your seat for comfortable driving.

Adjust both rear vision mirrors.

FASTEN SEAT BELTS.

Check that the warning indicators light up when you turn the key to start the engine.

Release the parking brake.

Caution: Never leave loose articles inside the vehicle — they may become dangerous projectiles if you have a collision or stop suddenly.

Maintenance for safety

The following items require regular attention in the interests of safety. If anything goes wrong with any one of them, an authorised GMH Dealer will help you.

- BRAKES.
- HORN.
- ALL LIGHTS.
- REAR VISION MIRRORS.
- SEAT BELTS.
- GLASS AREAS.
- EXHAUST SYSTEM.
- STEERING & WHEEL ALIGNMENT.
- WINDSHIELD WIPERS & WASHERS.
- TYRES.
- SUSPENSION.

Safe Driving Hints

Important

These items are listed as a safety reminder to you. The appropriate section of this handbook should be referred to for a more detailed explanation.

Carbon Monoxide

Avoid inhaling exhaust gases because they contain carbon monoxide, which is colourless and odourless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

Seat Belts

Various road laws require the wearing of seat belts. It is important that the habit of using these should be developed by yourself and others in the vehicle. In the interest of safety seat belts should be checked regularly. Your Dealer will inspect and check the belts for you as part of the normal Maintenance Plan Service. Never attempt to modify or change the seat belt away from the original specification as this will affect the operation of the belts and reduce their effectiveness, in preventing injury, in an accident.

Anti-Theft Ignition Steering Lock

DO NOT turn the ignition switch away from the ON position while the vehicle is in motion as this renders ineffective any power assisted equipment fitted to your vehicle.

Never remove the key while the vehicle is in motion **as this will lock the steering of the vehicle and render it inoperative.**

Brakes

Driving through water may affect performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

Brake pedal travel should not be obstructed by ill-fitting floor mats or other interfering material under the pedal.

Power Assisted Brake

Power assisted brakes which are fitted to your vehicle utilise vacuum from the engine when it is running. Do not let the vehicle run down steep grades without the engine running. **Never** coast with the engine switched off.

Tyre Traction

A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

Cooling System

If the cooling system is hot, the radiator cap must not be removed quickly — it should be rotated slowly to the first stop, which permits the pressure to release slowly through the overflow pipe. It is advisable to cover the cap, with an old rag or cloth to avoid possible scalding.

Loose Articles

Do not leave a loose load or articles inside the vehicle. Stow articles by tying down if necessary.

Petrol Fumes

Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.

Keys and Locks

Your vehicle is fitted with a locking system which provides security for personal valuables when parking in car parks or similar areas where locking of the vehicle is not permitted.

Keys

The code number of each key is stamped on the key. Record the key numbers and keep the numbers in a safe place such as your wallet. NOT IN THE VEHICLE.

In the event the original keys are lost, duplicates can be made by your dealer using the key code information.

Unlocking Front Doors

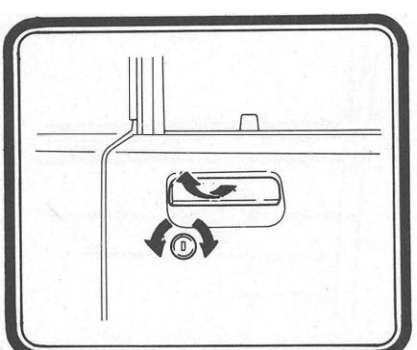
From Outside:
Both front doors can be unlocked with the ignition key from the outside by turning the key in the lock before lifting the handle to open the door.

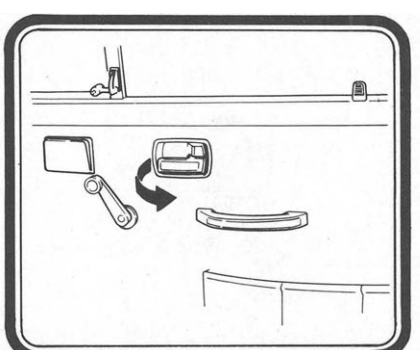
From Inside:
To unlock door lift the door lock knob before pulling the inside door handle.

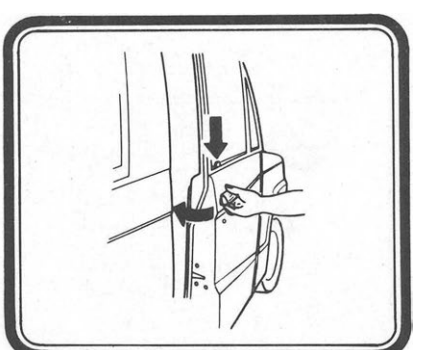
Locking Front Doors

From Outside:
The doors can be locked from outside without using the key by setting the door lock knob on the door inside and then closing the door with the outside door handle pulled upward.

From Inside:
The doors can be locked by setting the door knob after closing the door.







Back Doors

The left side back door can be opened by pulling the outside door handle. Door can be locked by inserting the starter key into the door lock and turning it.

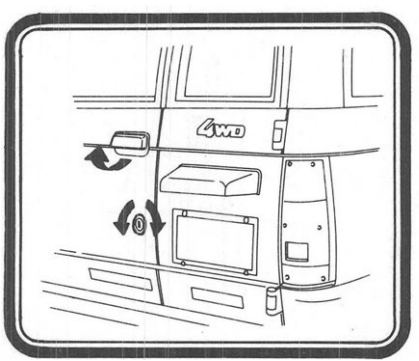
The right side back door can be opened by turning and pulling the door lock on the lower portion of the door.

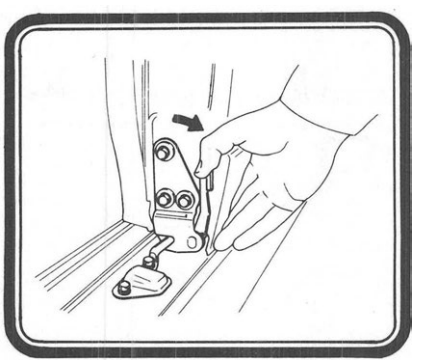
Be sure to lock the right side door before closing the back door.

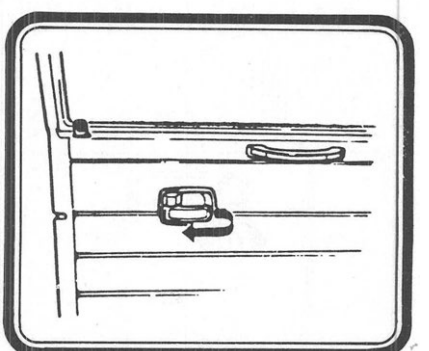
Back Door Inner Handle and Remote Lock (where fitted)

The left side back door can be opened from inside by pulling the back door inner handle. The back door can be locked from inside by pushing down the door lock knob.

The back door can also be locked from inside by pressing the remote lock switch located on the dash panel.







Fuel tank filler doors

The vehicle is equipped with two lockable fuel filler doors which can be unlocked with starter key.

After refuelling, ensure that the fuel tank filler caps are installed correctly and that the fuel filler doors are locked.

NOTE: Always fill forward tank first.

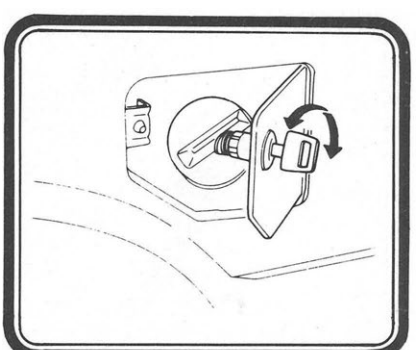
Regulator handle

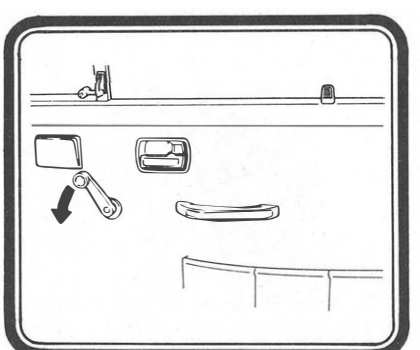
Turn the window regulator handle to raise or lower the door window.

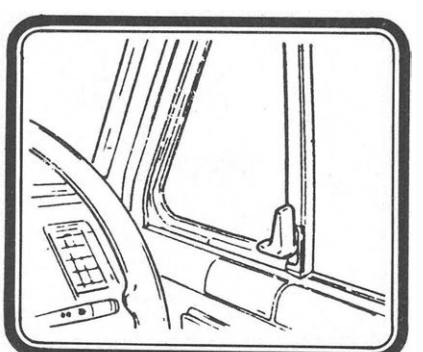
Door vent windows

To open the door vent windows, push in the release pin, turn the handle forward and push the window outward. To close the door vent windows, pull the window inward and turn the handle until it locks against the window frame.

To protect things left in the vehicle against theft when parking the vehicle unattended, be sure to lock the vent windows as well as the doors.







Rear side windows

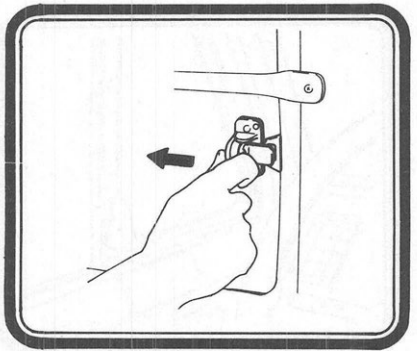
Push open the windows with the window lock depressed. The windows are automatically locked when completely closed.

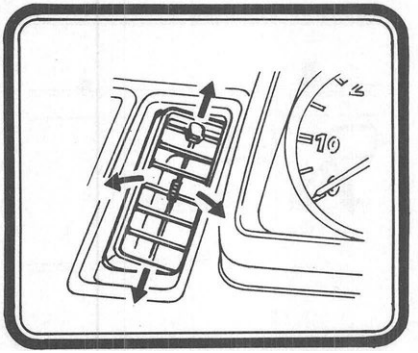
Ventilators

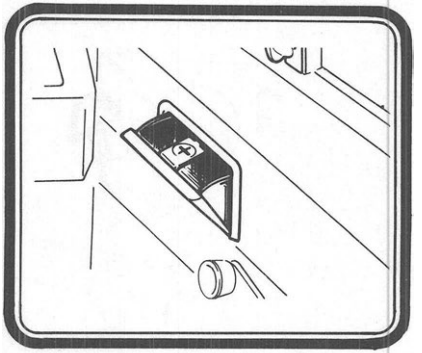
A pair of centre vents are located on the centre part of the instrument panel. A side vent is located in each end of the instrument panel. Pivoting the entire grille sideways controls the direction of air flow horizontally. The knob at the upper centre part of the grille controls direction of air flow vertically.

Ash tray

To use, pull out the tray. To clean, remove the tray by pulling it while depressing the entire tray.







Seat Belts

Study this section carefully. It is important that you understand how to correctly wear a seat belt. You should also ensure that all occupants wear a properly adjusted seat belt whenever the vehicle is moving.

Care of Seat Belts

Keep the belts clean and dry. Clean with a mild soap solution and lukewarm water. Keep sharp edges and damaging objects away from the belts.
Periodically, inspect the belts, buckles and anchorage points. Damage or fraying that could lessen the effectiveness of the system should be eliminated by replacing the belt assemblies. Do not bleach or dye the belts since this can cause severe loss of strength as also will cause contamination of the webbing with polishes, oils or chemicals—particularly battery acid.

Using Seat Belts

Various road laws require the wearing of seat belts. It is important that the habit of using these should be developed by yourself and others using the vehicle.
The adjustment and operating instructions are detailed in this Section together with the Seat Adjustment; it being important that both positions be comfortable in order that the driver may devote his entire attention to the job of driving and observing the road.

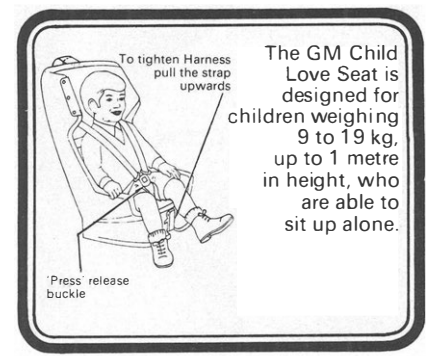
Releasing Belts

To release the belts: press the release button or the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.

Your GMH Dealer will be pleased to advise you about the various types of child restraints available.

Children should be belted in at all times. (See page 13.)

Never use a child restraint as an adult seat belt—it will not take the extra weight.



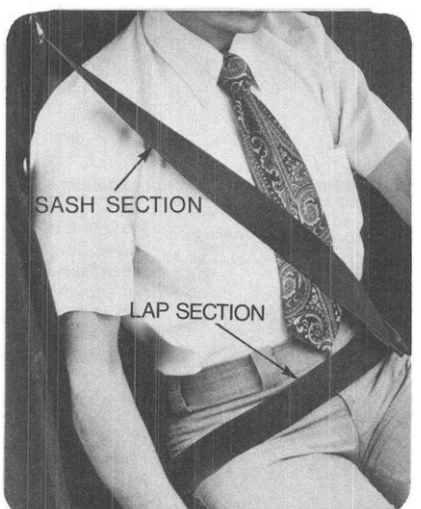
The GM Child Love Seat is designed for children weighing 9 to 19 kg, up to 1 metre in height, who are able to sit up alone.

IMPORTANT: Don't use belts that are twisted—untwist them before making any adjustments and be sure that they contour around the body comfortably when adjustments are complete.

Lap/Sash Combination Belt

Emergency Locking Retractor Type

A firm, low position across the pelvis by the lap section of the Lap/Sash



Combination Belt is essential in order that the force exerted by the Lap Belt in a collision may be spread over the strong hip bone structure and not across the soft abdominal area.

This type of seat belt allows the wearer to move bodily while the seat belt is fastened. It is also dual sensitive.

The first way the locking mechanism is activated is by sudden changes of vehicle speed or vehicle direction, as in the case of firm brake application or vehicle impact during an accident.

This phase of the retractor mechanism's operation can be tested by allowing the body to be restrained only by the belt during firm application of the vehicle brakes, at between 2-5 km/h (brisk walking speed) under safe conditions.

The belt should lock immediately, stopping all belt movement. The second way the locking mechanism is activated is by a sudden extension of the belt from the retractor housing. This phase of the retractor mechanism's operation can be tested by holding the belt tightly and giving it a sudden firm jerk. The retractor mechanism should lock immediately, stopping all belt movement.
These checks should be carried out regularly.

WARNING: No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

TONGUE RESTRICTOR

This belt system incorporates a tongue restrictor which can be moved along the belt to locate and hold the tongue in any desired position.
WARNING:The positioning of the tongue restrictor must never interfere with or stop the belt from fully retracting.

BELT ADJUSTMENT

1. Adopt a satisfactory seating position.
2. Bring the metal tongue across the body and snap home the Tongue into the Buckle.
3. After fastening, settle the belt by running a hand under the belt, starting at the outer hip area, then across to the tongue and up the sash section. This will feed back unwanted belt length to the retractor.
4. Finally check the fit and adjustment.

Non-Retractor Lap/Sash Belts

The lap section should be worn **as low as possible on your hips,** not on your waist. Make sure the sash and lap sections of the seat belt are free from twists and are fitting firmly.

To adjust: settle yourself comfortably. Bring the tongue adjuster across your body and clip into the buckle. When the tongue has locked safely into place you will hear a "click".

To lengthen: tilt the belt adjuster as shown and pull the belt from just below the finger grip bar.

To shorten: tilt the belt adjuster and use the finger grip bar to pull the belt through the belt adjuster.

Belt Storage

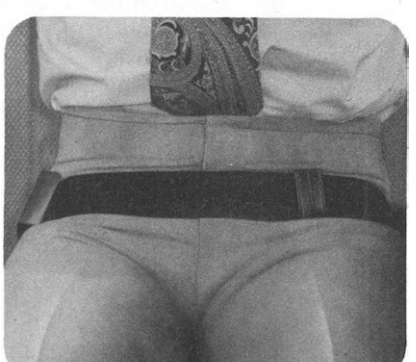
A hook on the belt adjuster is provided to hang the belts when they're not in use..

Lap Type Belts

BELT ADJUSTMENT

1. Adopt a satisfactory seating position.
2. Bring the Tongue Adjuster across the body and snap home the Tongue into the Buckle.
3. Adjust the belt to obtain a firm fit. A firm fit low position across the pelvis is essential in order that the force exerted by the lap belt in a collision may be spread over the strong hip bone structure and not across the soft abdominal areas.

   To Lengthen—Tilt the Tongue Adjuster and pull the belt to the right of the finger grip bar.



   To Shorten—Tilt the Tongue Adjuster and use the serrated Finger Grip Bar to pull the belt through the Tongue Adjuster.

BELT STOWAGE

When not in use these belts should be kept with the tongue latched into the appropriate buckle.

INFANTS UNABLE TO SIT BY THEMSELVES should be carried in a padded, covered bassinet placed **across** the back seat. Strap this in tightly with the two regular seat belts.

CHILDREN ABLE TO SIT UP should be restrained with the regular seat belt. If the sash part rubs on the child's neck or face, move the child towards the centre of the vehicle. If this doesn't work, the child should be lap-belted on the back seat. NEVER allow a child to stand or kneel on any seat.

Where children are carried without a child restraint if the seating position of the child is to be raised this is to be done only by means of a support which is retained by the seat belt.

ON NO ACCOUNT SHOULD A LOOSE CUSHION BE USED, THIS COULD RESULT IN SERIOUS INJURY IN THE CASE OF VEHICLE COLLISION.

Safety Hints

Check seat belts regularly. Your GMH Dealer will do this as part of normal Guardian Maintenance.

Adjust seat belts firmly. A loose belt is no help at all. Seat belts must be replaced if they have been in use during a severe impact — even if there's no obvious damage.

Don't wear a belt with twisted straps.

Don't ever put a seat belt around a child being nursed on the lap.

AUSTRALIAN DESIGN RULES: WARNINGS

Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.

No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

The positioning of the tongue restrictor must never interfere with or stop the belt from fully retracting.

Seat Adjustment

Driver's Seat

Seat adjuster:

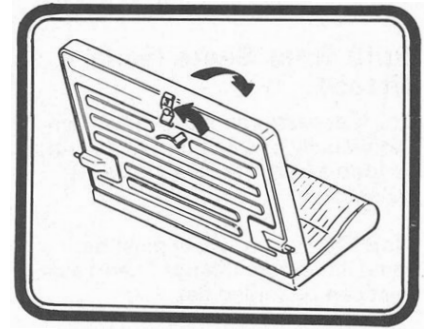
The driver's seat can be moved forward or rearward for most comfortable position.

Push sideways on the lever, located at the front lower part of the seat, to release the seat adjuster lock so that the seat can be moved forward or rearward as desired. After adjusting the seat position, move the seat forward and backward to be sure the seat adjusters have been latched.

Do not adjust the seat whilst the vehicle is moving.

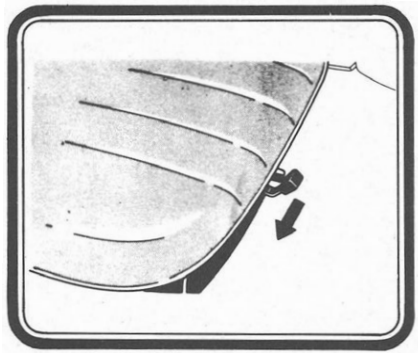
Seat back:

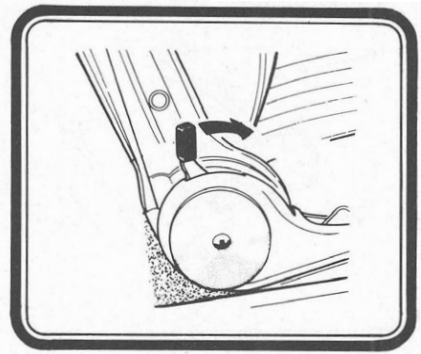
Front seat back inclination can be adjusted by raising lever on door side of seat. To gain access to the rear seat, lift the lever on the passenger front seat and lower the back of the seat.

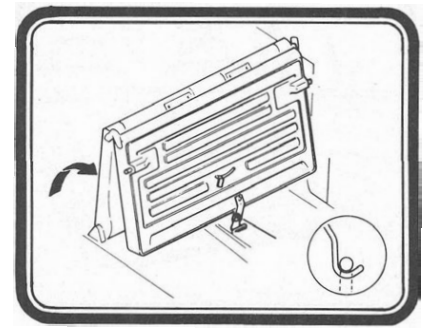


Folding type rear seat

1. Move the folding lever at rear of the seat back and tilt the seat back forward.
2. Raise seat cushion and fold it forward.
3. Engage the seat lock with the lock on the floor.



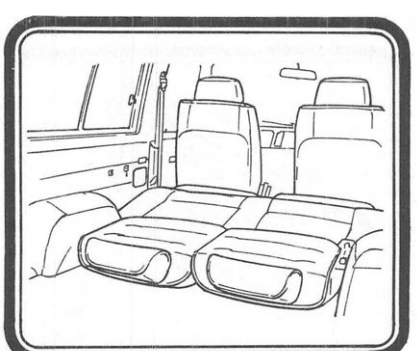




Split Rear Seats (where fitted)

The rear seats can be folded down individually or together (as shown) to form a bed. The head rests are detachable.

Note: The spare wheel must be removed before the right hand side seat can be folded flat.



Rear vision mirrors

Inside mirror

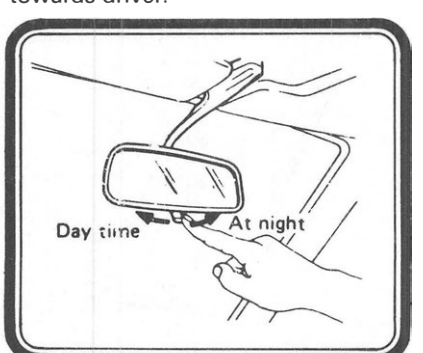
This is shatter-resistant, and mounted in such a way that it can be knocked out in case of accident to reduce the risk of injury.

Anti-glare type

(where fitted)

Where the anti-glare mirror is fitted, a control lever on the lower edge of the mirror enables an anti-glare reflector to be used during night driving. This reduces headlamp glare from following vehicles.

During normal daylight operation, the lever should be set forward away from the driver. To reduce glare at night, move the lever backwards towards driver.



Outside rearview mirror

Adjust the outside rearview mirror so you can just see the side of your vehicle in the side of the mirror closest to the vehicle. This helps you determine your relation to objects seen in the mirror. When selecting the most suitable angle for the mirror, ensure that the driver's head is in the normal position for driving then adjust the mirror angle to suit.

Section 2: Starting and Operating

Exhaust gas warning

Carbon monoxide poisoning

Exhaust gases contain carbon monoxide which can cause unconsciousness and even death.

You could breathe the gases in if the exhaust system on your vehicle is faulty.

Have the vehicle checked thoroughly each time it is serviced. If you notice a change in exhaust noise, or if the back of your vehicle is damaged, take it to your GMH Dealer for inspection.

If you must drive with a faulty exhaust, drive with all the windows open.

Danger

Don't ever sit in a parked vehicle with the engine running for any length of time.

Don't run the engine in the garage any more than necessary to move the vehicle.

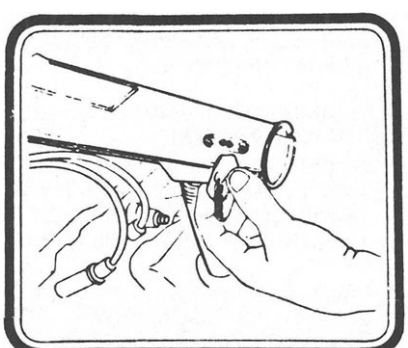
If you need to travel with the rear doors open, close all windows, fully open the ventilation system and set the fan speed to 3.

This procedure will help to minimize the intake of exhaust gas into the interior of the vehicle.

Hot air intake system (Petrol engine)

When the ambient temperature is around 15°C or lower, the hot air intake valve selector lever on the air cleaner duct should be set in position "W" for intake of hot air to improve fuel combustion while the engine is cold.

When the ambient temperature is around 15°C or above, the selector lever should be set to position "S". At those times of the year when it can be 15°C and above during the day and fall to well below 15°C at night it is recommended that the lever be left at "W" when operating under these conditions.



Starting and Driving

The following suggestions are for starting and driving and should be followed if you are to get the best out of your vehicle.

Parking Brake

This should be firmly applied, and released only after you have started up.

Starting the engine

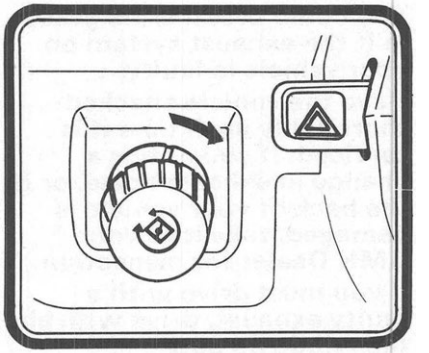
1. Apply the parking brake.
2. Place transmission in neutral and hold clutch pedal to the floor throughout the starting procedure. (Select the proper gear position before releasing the clutch pedal.)
3. Depress accelerator pedal and activate starter as outlined below for different conditions.
4. Start engine as outlined below for different conditions.

Normal Weather—Above about 0°C (Petrol Engine)

1. With the key turn the starter switch clockwise, checking to see if the oil pressure indicator light and generator indicator light turn on.
2. Crank the engine by turning the starter switch fully clockwise. Release the key as soon as the engine starts. The starter switch will return automatically to "ON" position.
3. When the engine starts, depress the accelerator pedal part way down and check to be sure that the oil pressure indicator light and generator indicator light go out.

(Diesel Engine)

1. Turn the starter key to ON position.
   Checking to see if the oil pressure indicator light, generator indicator light, filter indicator light, and glow indicator light turn on.
2. As soon as the glow indicator light has gone off, fully depress the accelerator pedal and clutch pedal to start the engine.
3. Crank the engine by turning the starter switch fully clockwise. Release the key as soon as the engine starts. The starter switch will return automatically to ON position.
4. When the engine starts, depress the accelerator pedal part way down and check to be sure that the oil pressure indicator light and generator indicator light go out. If necessary to achieve a smooth idle, turn the idling control button to clockwise until the engine reaches normal operating temperature. Turn the idling control button to home position after the engine has thoroughly warmed up.



COLD STARTING
Cold Weather—
Below about 0°C, or After Vehicle Has Been Standing Idle For Several Days

(Petrol Engine)

1. Pump the accelerator pedal 2 to 3 times and release it.
2. Depress the clutch pedal all the way to floor, hold and crank the engine by turning the starter switch fully clockwise.
3. When the engine starts, allow it to run at fast idle setting in NEUTRAL for approximately 20 to 30 seconds to facilitate warming-up.

NOTE: If the engine does not start due to carburettor flooding, continue to operate the starting motor with the accelerator pedal depressed to floor.

(Diesel Engine)

To start, follow the steps applied for starting cold engine under normal weather.

HOT ENGINE

1. Depress accelerator pedal slowly, and hold it to floor, turn the starter switch clockwise—release when engine starts.
2. After starting the engine, release accelerator pedal.

If the Engine Fails to Start with Initial Cranking

IMPORTANT: Do not keep the starter engaged for more than 15 seconds (Petrol Engine) or 30 seconds (Diesel Engine) at a time. Wait 30 seconds and try again.

Note: If the starting motor has been operated continuously but the engine did not start, allow 30 seconds before attempting to restart. If the engine fails to start with repeated cranking, check fuel system and electrical system.

Stopping the engine

Turn the starter switch to OFF position.

INITIAL DRIVING
Petrol & Diesel

Depress the clutch pedal and place the gear shift lever into the first or the reverse gear position according to requirements. Release the parking brake. Lightly depress the accelerator pedal to increase the engine speed and slowly release the clutch pedal to set the vehicle in motion.

OPERATING PRECAUTIONS FOR TURBOCHARGED DIESEL ENGINE

STARTING ENGINE:

Do not operate the engine above idle before normal engine oil pressure has been established. (Such as applying full throttle immediately upon initial startup.) This causes the turbocharger to operate at excessive speed before the bearings receive adequate lubrication.

Operation of the turbocharger for a period as short as 5 seconds without sufficient oil can cause bearing failure.

STOPPING ENGINE:

Before engine shutdown, operate the engine at low idle speed for a few moments to allow the turbocharger to decelerate. Shutting the engine down from a high operating speed could cause the turbocharger to continue to rotate after engine oil pressure has dropped to zero, which can damage the bearings.

Steering Column Controls

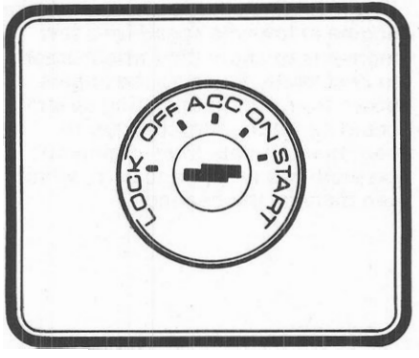
Ignition Lock

This is an anti-theft lock and is on the right side of the steering column. It has five positions.

LOCK (Normal Parking Position) — Locks the ignition when the key is removed and provides an added theft protection by preventing operation of the steering wheel.

OFF (1st Forward from Lock) — Permits turning the engine off without locking the steering wheel.

ACC (2nd from Lock) — Permits operation of accessories when the engine is not running. To engage, push the key in and turn toward you (counterclockwise).



ON (3rd Forward from Lock) — Normal operating position. The ignition circuit and the electrically operated instruments are energised.

START (4th Forward from Lock) — This starts the engine.

CAUTION: Do not turn the ignition switch away from the "ON" position while the vehicle is in motion as this renders ineffective any power assisted equipment.

Never remove the key whilst the vehicle is in motion as this will lock the steering.

Horn

The horn is operated by pressing the button in the centre of the steering wheel. The horn can be operated at any time.

PARKING: When leaving your vehicle unattended:

1. Apply the parking brake. (Refer to page
2. Place transmission selector in Reverse.
3. Turn key to LOCK position.
4. Remove key.
5. Lock all doors and windows.

NOTE: If the steering lock is difficult to disengage when the vehicle has been parked with the tyres hard up against the kerb or with the steering wheel off-centre it may be necessary to rotate the steering wheel to free up the ignition steering lock.

Combination Stalk

Turn Signals

These operate when the ignition switch is in the ON position.

When the combination stalk is moved up or down, a turn signal light on the instrument panel will flash, indicating the direction intended to turn. The signal cancels when the steering wheel is returned to normal. If the turn signal lights don't flash or if you can't hear the clicking signal, or if they flash faster, or slower than usual, have them checked right away, in the interest of your safety.

Windshield Wipers and Washers

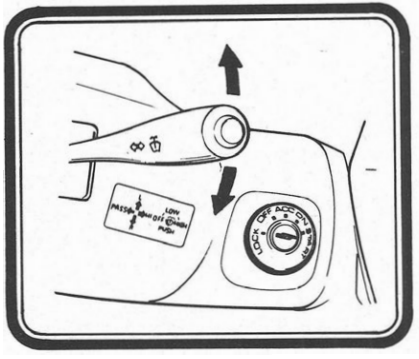
The wiper and washer mechanisms operate when the ignition switch is in either the ON or ACC positions.

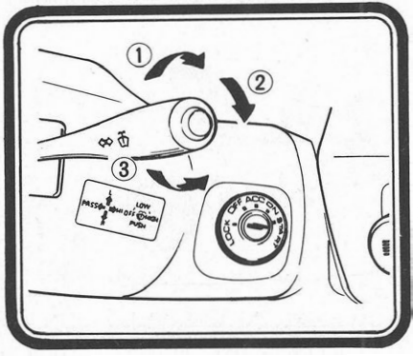
Wiper Operation — The windshield wipers are operated by turning the end of the stalk clockwise.

Turn the switch to the first stop for low speed and to the next stop for high speed. If an optional windshield wiper with dwell control is fitted, turn the switch button counter-clockwise to "INT" for intermittent operation of the wiper.

Washer Operation — By depressing the button on the end of the stalk the electric washer pump is activated, spraying jets of fluid onto the area swept by the wiper blades, and will only continue while the button is depressed.

Do not operate the wipers if the windshield is dry. It may scratch the windshield glass. Do not operate wipers if they are caked with snow or frozen as it may damage the wiper system.





1: Low speed
2: High speed
3: Intermittent

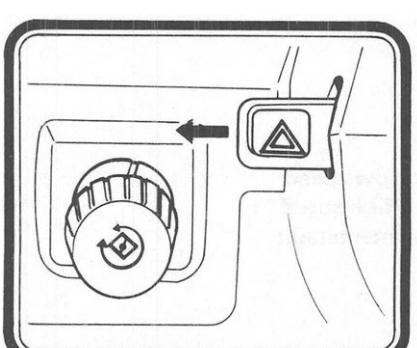
Hazard Warning Switch

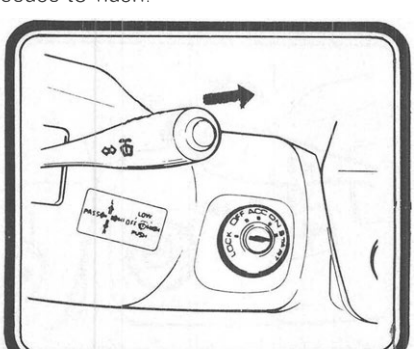
This is the knob on the passenger side of steering column. When stopped in an emergency situation, pull the knob out. This makes all four indicator lights flash continuously and both turn indicators on the instrument panel will flash when on.

USE OF THE HAZARD WARNING SYSTEM WHILE THE VEHICLE IS MOVING IS PROHIBITED BY LAW IN SOME STATES.

Headlamp Dipping

The combination stalk is also used to change the headlamp beam from low to high, or high to low. To select high beam, push the stalk forward, away from the steering wheel. Reversing this operation will change the beam from high to low. When the headlamps are operating on high beam a light located on the instrument panel will glow. It is also possible to flash the high beam for signalling purposes without operating the light switch by moving the stalk backward towards the steering wheel. A light resistance will be felt. Upon release the light will cease to flash.





Transmission Controls

4 Speed Manual Transmission

This system has four fully synchronised forward gears and a non-synchronised reverse gear.

The gear selection pattern is indicated on the knob of the gear lever.

First Gear — Low: This is synchronised and so can be used at speeds up to 25 km/h to avoid overloading the engine.

Second Gear — Low Intermediate: Use this gear at speeds up to 50 km/h when driving in traffic. It is also useful on steep hills.

Third Gear — High Intermediate: Use this gear for accelerating and retarding in the speed range 50-80 km/h.

Fourth Gear — High: This is the normal cruising gear at speeds down to 50 km/h. A lower gear should be selected for accelerating or retarding.

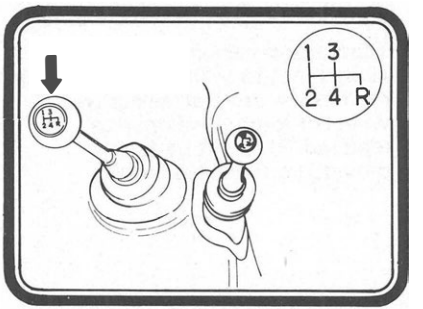
Reverse Gear: This gear must never be engaged unless the car is stationary. A slight pause between pushing the clutch in and moving into gear is desirable. The lever knob must be pushed downwards to pass into the R gate path.

Back-Up Lights: These will operate whenever Reverse is selected, provided the ignition switch is in the ON position.

IMPORTANT: Petrol Engine Models.

To ensure minimum exhaust emissions the following shift speeds are recommended when operating in 2H or 4H only.

1st-2nd—15 km/h.
2nd-3rd—30 km/h.
3rd-4th—50 km/h.



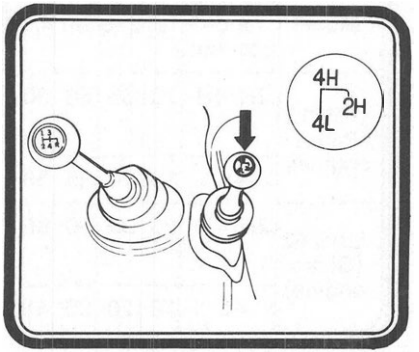
Maximum allowable speed in each gear in km/h during running-in period.

Model	Transfer range position	1st	2nd	3rd	4th
UBS 13 (Petrol engine)	2H/4H	20	35	60	90
	4L	10	20	35	50
UBS 52 (Diesel engine)	2H/4H	20	35	60	85
	4L	10	20	30	45

4 Wheel Drive

Transfer Gearshift Lever

The transfer case for conventional (Part-time) four wheel drive vehicle permits the driver to select two wheel or four wheel drive as required. The shift pattern is provided on the lever knob.



SHIFTING PROCEDURE FOR CONVENTIONAL (PART-TIME) FOUR WHEEL DRIVE

NOTE: The transfer case shift lever is placed in 2H (2 wheel drive High Range) position for normal driving.

VEHICLE MOVING

NOTE: 1. When shifting into 2H from 4H, there may be a little time lag until the sliding sleeve moves for engagement.
2. Never shift from 4H to 4L or 4L to 4H while the vehicle is moving.

TO SHIFT TRANSFER CASE FROM	TO	PROCEDURE
4H (All Wheel Drive, High Range)	2H (Rear Wheel Drive)	1. May be made at any speed, forward or reverse. 2. Move lever fully into position. 3. Momentarily release or slightly depress accelerator pedal to relieve sliding sleeve movement.

VEHICLE STATIONARY

NOTE: The transmission shift lever is placed in "Neutral" position if engine is running.

TO SHIFT TRANSFER CASE FROM	TO	PROCEDURE
Any Position	2H or 4H	1. Move lever fully into position.
Any Position	4L (All Wheel Drive, Low Range) (Used for low traction road surface only).	1. Move lever fully into position.

Automatic Locking Hub

With this equipment, ''lock to free'' and vice versa can be made by just operating the transfer shift lever in the cabin without alighting from the vehicle.

To Lock

1. Stop the vehicle.
2. Shift transfer lever to 4H or 4L.
3. Start the vehicle. This automatically locks the hubs.
4. Once the hubs have been locked, they will remain locked even if the transfer lever is shifted from 4L or 4H into 2H as long as the vehicle runs in the same direction.

To Free

1. Stop the vehicle.
2. Shift transfer lever to 2H.
3. Move the vehicle in the opposite direction slowly for at least one metre.

When you move the vehicle in the opposite direction at 4L or 4H, the hubs are freed, and then locked.

When the transfer lever is in 4H or 4L mode the indicator light on the instrument panel will glow.

WARNING: Vehicle should never be operated on hard surfaces or sealed roads for any distance (above ¼ kilometre) in 4L or 4H with locked free wheeling hubs.

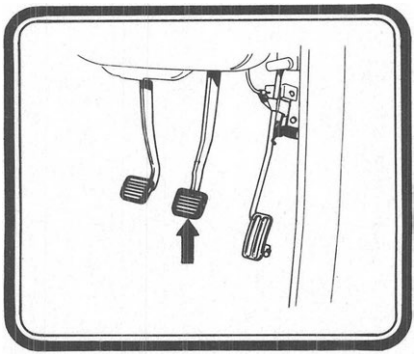
Floor Controls

Brake Pedal

Avoid hard stops by operating the foot brake pedal in a smooth manner. When descending a slope, it is always advisable to use the foot brakes in combination with the engine braking effect.

Disc Brake Wear Indicators

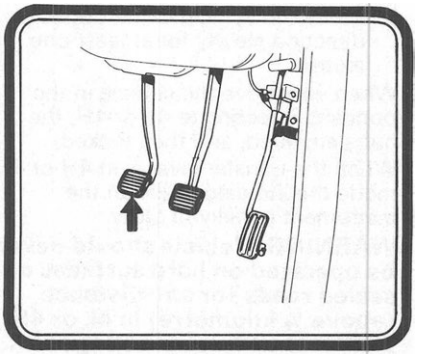
Front disc brakes have built-in wear indicators that are designed to make a highpitched squealing or cricket-like warning sound when the brake linings are worn to where new linings are needed. The sound will come and go, or be heard all the time when the wheels are rolling, but may stop when the brake pedal is pushed down firmly. Expensive damage can result if linings are not replaced when needed.



Clutch Pedal

The clutch pedal should be fully depressed when disengaging. If this is not done, grating of the gears may result.

Do not allow your foot to rest on the pedal when not using the clutch.

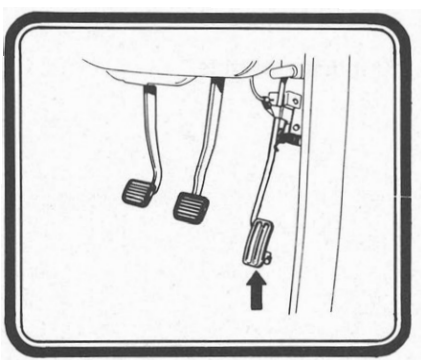


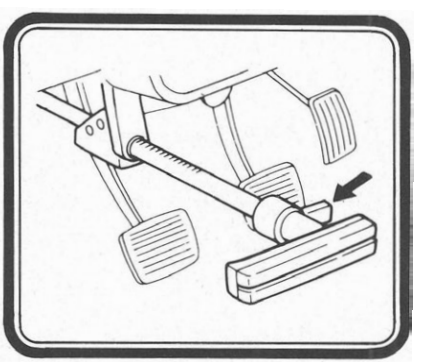
Accelerator Pedal

To avoid unnecessary increase in fuel consumption, the accelerator pedal should be operated smoothly and reasonably.

Parking Brake Lever

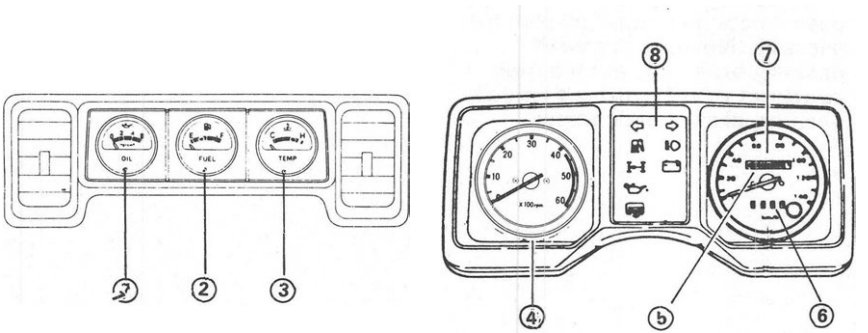
Turn the lever counter-clockwise while pulling the safety knob and push it back into home position for releasing. **Never drive with parking brake set as this may overheat or otherwise damage parking brake mechanism.**





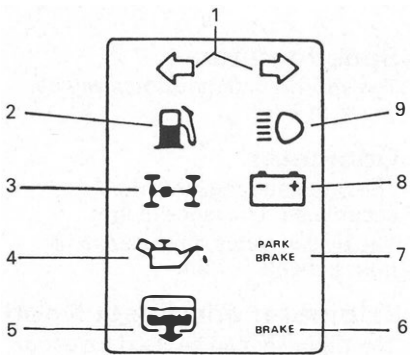
Instrument Panel Controls and Dials

These pages detail all available instruments and control options. Some features may not be fitted to your vehicle.



1. Oil Pressure Gauge
2. Fuel Gauge
3. Temperature Gauge
4. Engine Tachometer
5. Odometer
6. Tripmeter
7. Speedometer
8. Indicator Lights.

Indicator Lights



1. Turn Signal Indicator Lights
2. Low Fuel Indicator Light (where fitted)
3. 4 Wheel Drive Indicator Light
4. Oil Pressure Indicator Light
5. Fuel Filter Indicator Light (Diesel Only)
6. Brake Indicator Light
7. Parking Brake Indicator Light
8. Generator Indicator Light
9. High Beam Indicator Light.

Turn Signal Indicator Lights

When the turn signal switch or hazard warning flasher switch is turned on, the turn signal indicator light flashes to indicate operation of the external turn signal or hazard warning flasher.

Generator Indicator Light

The generator indicator light lights up when the starter switch is turned on but before the engine is started. The generator indicator light lights up when generator circuit fails.

If the generator indicator lights turn on while driving, have the generator circuit checked at your nearest GMH dealer.

4 Wheel Drive Indicator Light

This light will come on when the transfer gear-shift lever is shifted into 4H or 4L position.

Low Fuel Indicator Light (where fitted)

This light will come on when the fuel level in the tank drops to nearly empty.

Parking Brake Indicator Light

With the ignition switch in the ON position, the warning light will operate while the brake is on or not fully released.

When the brake has been fully released the parking brake warning light in the instrument panel will go out.

Never drive the vehicle with the warning light on.

High Beam Indicator Light

The high beam indicator light turns on when headlight high beams are in use.

Brake Indicator Light

The brake indicator light indicates the level of brake fluid in the reservoir. With starter switch in "ON" position, the light turns on when the brake fluid in the reservoir is lower than the specified level, indicating need for replenishment.

Fuel Filter Indicator Light (diesel only)

Under certain circumstances water may be taken into the fuel tank, and to prevent water from reaching the vital parts of the fuel system, a water separator is installed. When the level of water trapped within the water separator reaches the specified level, the indicator light turns on. **If the indicator light turns on and remains on with the engine running, it indicates the need for draining water separator.** (See page 49)

Oil Pressure Indicator Light

The oil pressure warning light turns on when the starter switch is turned on but before the engine is started. **If the oil pressure indicator light comes on while driving, it indicates that the oil pressure is dangerously low. Stop the engine immediately and check level of oil in the engine crankcase. If the oil level is normal have the lubricating system checked at your nearest dealer.**

Glow Plug Indicator Light (Diesel only)

Your diesel engine has a special starting system. Small heating elements, called "glow plugs", warm part of the engine for improved starting. The glow plug indicator light tells you when the engine is ready to be started.

Turning the ignition key to the "ON" position starts the system and turns on the indicator light.

The light may stay on a short time or may go out right away. The waiting time will vary with the engine and coolant temperatures.

When the glow plugs have heated the engine enough for it to start, the indicator light will go out. This tells you the engine is ready to be started. If the light fails to come on, see your dealer.

This indicator light is located on the dash panel adjacent to the steering column.

Instruments and Controls

Speedometer

The speedometer indicates vehicle speed in km/h.

Odometer

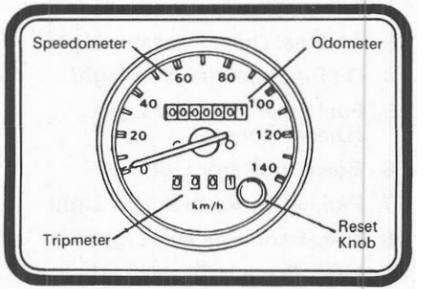
The odometer registers the accumulated distance in km.

The black figures on the extreme right indicate 0.1 km.

Tripmeter and Reset Knob

The tripmeter can be used to record the distance travelled for a particular trip.

To reset the tripmeter to zero push the Reset Knob.



Temperature Gauge

The temperature gauge indicates the temperatue of engine coolant when the starter switch is turned on. When the gauge needle is in the centre part of the thick line on the scale while driving, normal coolant temperature is indicated. **If the temperature gauge indicates overheating condition, stop the vehicle and keep the engine running at idle until coolant temperature lower to normal level. (See page 46.)**

Fuel Gauge

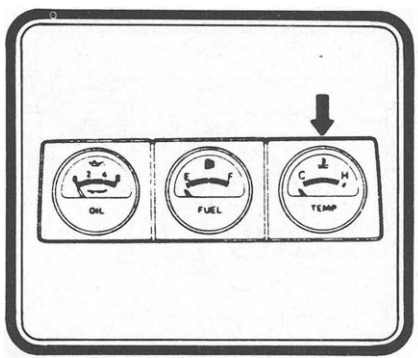
The fuel gauge indicates the level of fuel within the forward fuel tank when the starter switch is turned on. The letters "F" and "E" represent "Full" and "Empty" respectively.

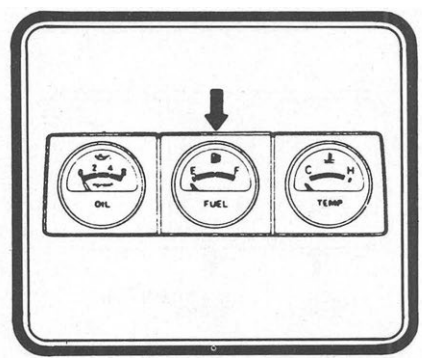
Note:

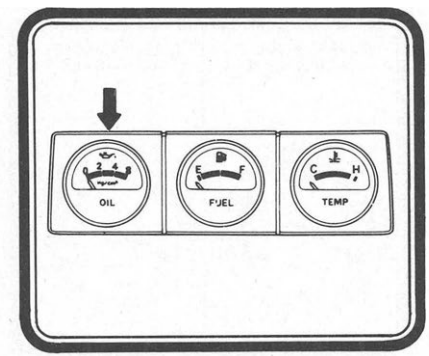
When fuel is being pumped from the rear tank into the forward tank (see fuel pump switch operation page 33) the fuel gauge indicates the level in the rear tank.

Oil Pressure Gauge

The gauge indicates the pressure of oil in the engine. **When the gauge needle does not deflect at all or it gives an erratic indication, check the level of oil in the engine crankcase. If the oil level is normal, have the lubricating system checked at your nearest dealer.**







Engine Tachometer (where fitted)

The tachometer indicates the engine speed in rpm and red colored zone represents critical engine speed.

Maximum allowable engine speed

Petrol engine:	6,000 rpm
Diesel engine:	4,300 rpm

Light Switch

Pull the switch button part way out (Position 1) to operate clearance lights, tail lights, licence plate light and instrument panel lights.

Pull the switch button to a definite stop (Position 2) to turn on headlights in addition to the above mentioned lights.

Rear Window Demister

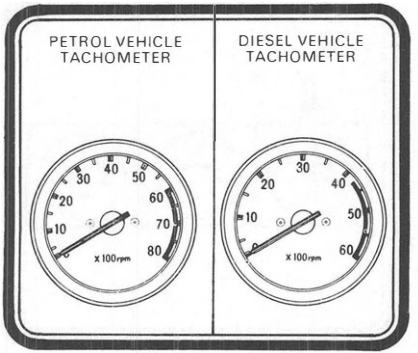
With the starter switch on, depress the switch upper section to operate the rear window demister. The indicator light comes on when this switch is in use.

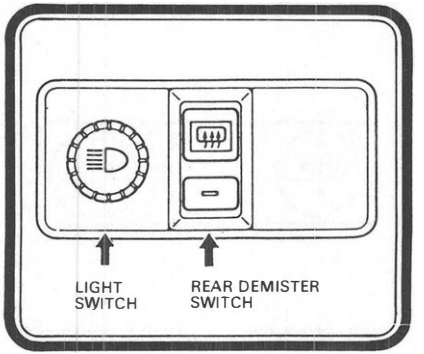
Turn off by depressing lower section of the switch when the window becomes clear.

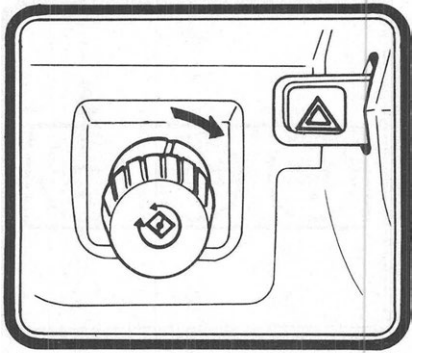
If the switch is left on, the battery will discharge.

Idling Control Knob—Diesel

Turning the knob clockwise (in direction of arrow) after cold starting of the engine will increase idling speed hereby facilitating quick normalization of the engine. Always drive with the button returned to home position. (See engine starting procedure.)







Cigarette Lighter

To operate, push knob.

The knob snaps back into home position when heated ready for use.

Electrical digital clock (where fitted)

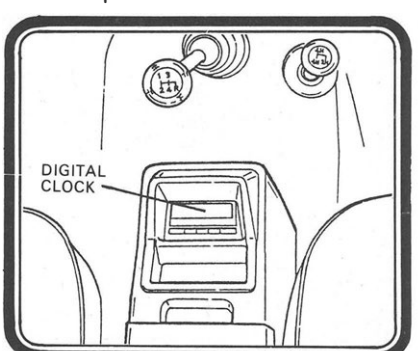
Time is displayed when the starter switch is in the "ON" position. To reset the time, push the switches.

The function of each switch is as follows:

"M": Minute indication is advanced rapidly while this switch is pushed.

"H": Hour indication is advanced rapidly while this switch is pushed.

"SET": Minute indication is reset to "00" when this switch is pushed.



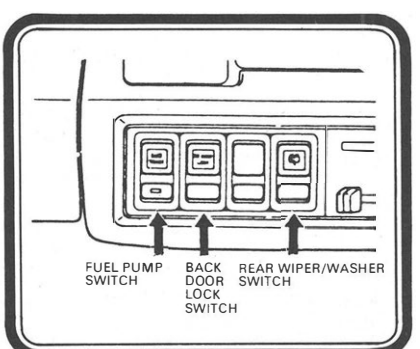
Back door lock switch

When the switch upper portion is pushed in, the back door is locked automatically.

Fuel pump switch

To feed the main (forward) tank with fuel from the sub (rear) tank, push the switch to operate the fuel pump. The switch is automatically turned off when the main tank is filled up or when the sub tank becomes empty.

When the switch is on, the fuel gauge indicates level of fuel in the sub tank.



Rear wiper/washer switch

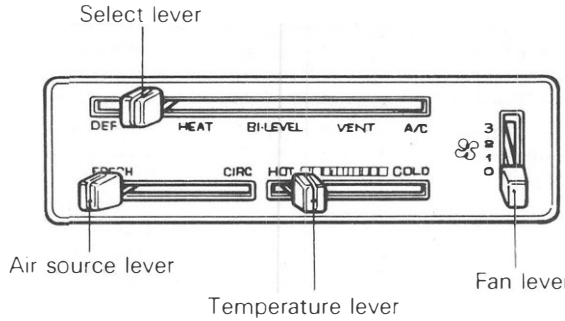
Depress upper section of the switch to operate the rear wiper. Depress lower section of the switch to stop wiper operation. *Do not operate the wiper when the window is dry. It may scratch the back door window glass. Do not operate the wiper if it is caked with snow or frozen as it may damage the wiper system.*

When upper section of the switch is depressed further than rear wiper operating position, the washing solution is squirted onto the back door window.

When lower section of the switch is depressed, the washing solution is squirted onto the window without causing the wiper to operate.

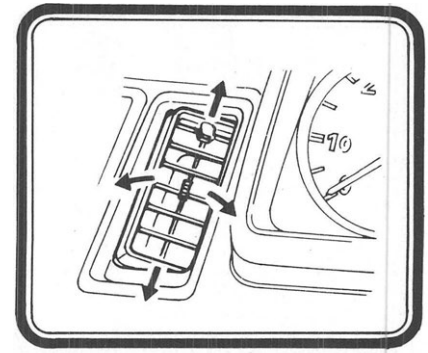
Ventilation and Heating System

The vehicle features a flow-through ventilation system for your comfort. Under reasonable conditions, it shouldn't be necessary to open the windows at any time. Fresh air is ducted into the vehicle through the plenum chamber in front of the windshield.



Ventilators

A pair of centre vents are located on the centre part of the instrument panel. Outer vents are located at each end of the instrument panel. Pivoting the entire grille sideways controls the direction of air flow horizontally. The lever at the upper centre part of the grille controls direction of air flow vertically.



Heater/Demister Controls

Select Lever

The select lever regulates the air flow to the heater, demister and vent outlets.

DEF—Air is delivered from the demister outlets with a small amount from the heater outlets.

HEAT—Air is delivered from the heater outlets with a small amount from the demister outlets. This position can be used for most winter driving.

BI-LEVEL—Air is directed out of the centre and outer vents and the heater outlets.

VENT—Air is directed out of the centre and outer vents.

A/C—Air conditioning where fitted is turned on with the lever in this position.

Air Source Lever

CIRC—Vehicle air is recirculated.

FRESH—Outside air is brought into vehicles.

Temperature Lever

The temperature lever regulates the temperature of the air entering the passenger compartment in all Select lever positions.

Fan Lever

The fan lever (0-3) provides speed control of the blower fan in all Select lever positions except OFF.

How to Use the Controls

Ventilation and Heating

(With Air Conditioning not fitted or "A/C" not selected)
Set air source lever to "Fresh" to obtain outside air. Air flow may be boosted by using the fan.
Select air temperature control position as desired.
If outside air is not required for any reason, set the air source lever to "Circ".

Heating or cooling (with air conditioner operating)

Set the temperature control lever to obtain the required temperature. Air will be delivered through the centre and outer vents. For rapid heating or cooling set the Air source lever to "Circ" and use the fan.

For normal heating or cooling Air source select lever may be set for "Fresh" position. If vehicle is moving use of fan is optional.

The best efficiency of the air conditioner is obtained with windows closed. With extremely high temperatures in the passenger compartment, we recommend to open the windows for a little while—immediately after entering the car and switching the air conditioning on—to permit a speedy escape of the warm air.

Do not operate the air conditioning for a long time when the vehicle is parked as the air conditioning and engine are adversely affected.

Turn air conditioning and fan off before engine is started.

Rapid Cooling

To rapidly cool the vehicle after it has been parked in the sun, open the windows and set the fan blower switch to position "3". Close the windows as soon as the desired conditions are achieved.

Windshield Defrosting and Demisting

To demist or defrost the windshield set the select lever to "DEF", select air flow and air source required. Demisting or defrosting will be accelerated if higher temperature air is used.

NOTE: In high humidity conditions operate system for approximately 30 seconds before selecting "DEF" position to purge humid air from system.

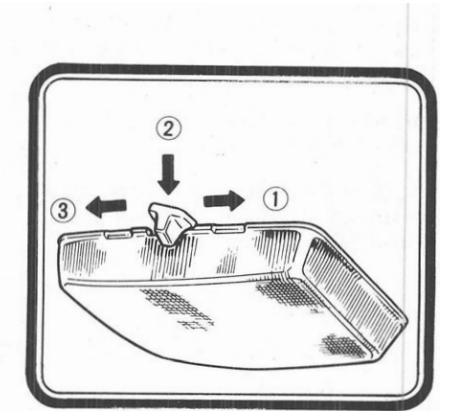
Dome Light

The dome light is operative at any starter switch position.

1 "OFF" position: The light remains out.

2 "DOOR" position: The light turns on when either of the front doors is opened.

3 "ON" position: The light turns on regardless of the door postion.



AM Radio

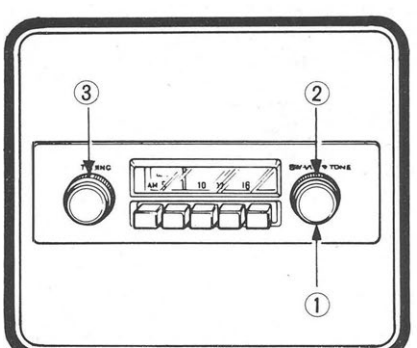
1. "OFF" and "ON" switch and volume control knob:
   The power switch is the push type.
   Turn the knob to control volume.
2. Tone control:
   Turn the control ring to control tone.
3. Tuning knob:
   Turn the knob to tune in to a desired station.

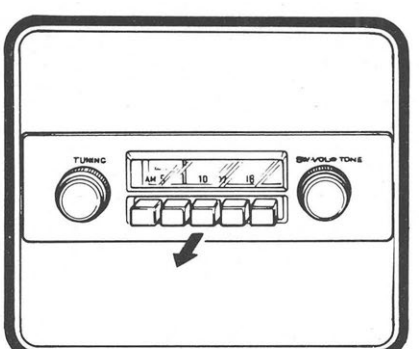
Preset tuning:
Push button in to tune in to a preset station.
Tuning buttons can be preset in the following manner:

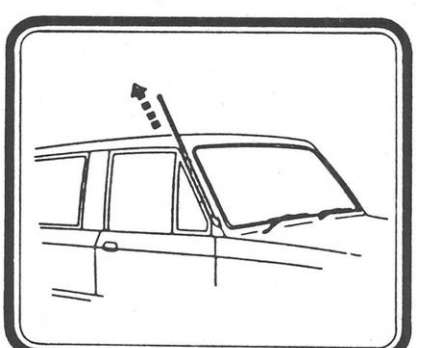
1. Pull out the tuning button.
2. Tune in station desired using tuning knob.
3. Push in tuning button carefully.

Antenna

Extend the antenna for maximum distance reception.







AM/FM Radio with Cassette Stereo (where fitted)

ON/OFF, Volume Switch

Push the knob in to turn the radio ON. A second push will turn it OFF. Turn the knob to alter volume.

Preset Buttons

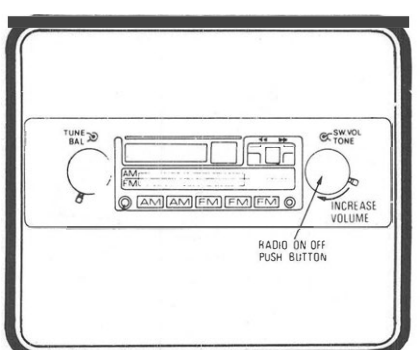
Push in the preset tuning button with the symbol "FM" to tune into a preset "FM" station. To tune in a desired "AM" station, push in preset "AM" button.

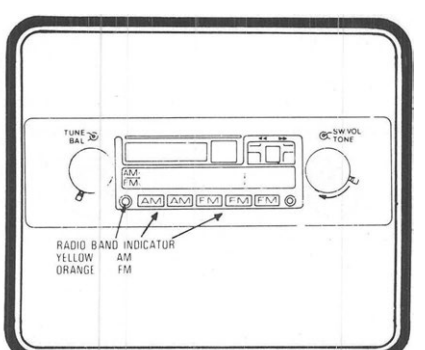
Preset buttons can be preset in the following manner:

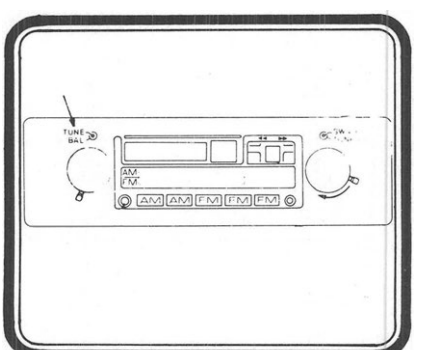
1. Pull out the desired tuning button.
2. Tune in station desired using tuning knob.
3. Push the button in again until a clicking sound is heard.

Tuning Knob

With the preset button set to band desired, tune in to a station using tuning knob. To set preset button, tune in to a desired station by turning the tuning knob, pull out the button to be preset, then push it back in carefully.







Tone Lever

Use this lever to control tone to a desired level.

Loudness Switch

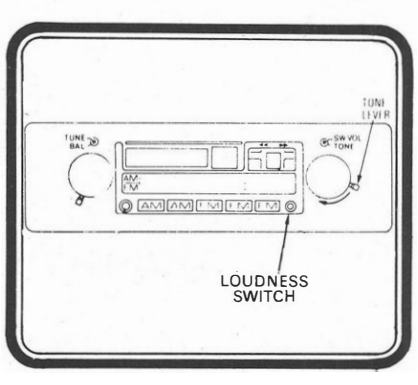
Pressing this switch will give you a deep and powerful sound with a full bass.

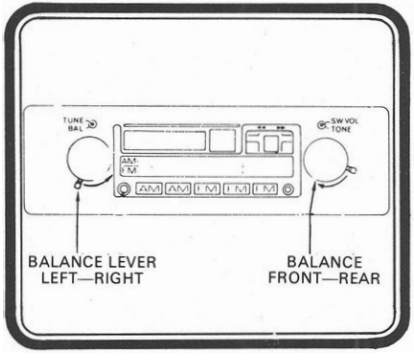
Balance Control

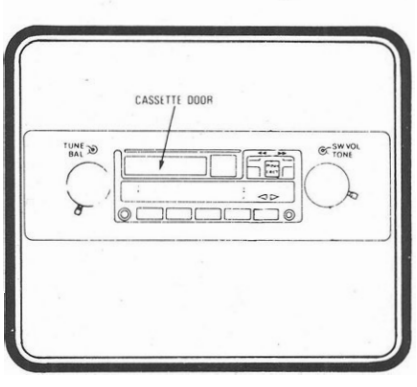
The balance lever located on the left side controls the level of sound coming from the left and right side speakers. To balance the level of sound between front and rear speakers pull out the volume knob and then rotate it.

Cassette Opening

Insert cassette with tape opening on left side, so that it is automatically set in position for play. The tape indicator turns on to indicate the direction of tape running.







Eject Button

To stop playing, depress the eject button lightly, so that cassette is ejected to a certain point and mode is switched automatically to radio.

Fast Forward/Rewind

Fast feeding of the tape in the forward direction is accomplished when the "FF/REW" button is moved in the direction of the indicator arrow, and the tape is rewound when it is moved in the opposite direction.

Program Change Knob

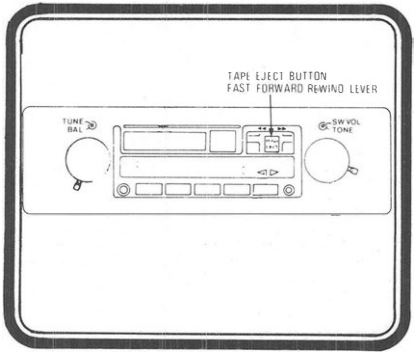
Automatic change

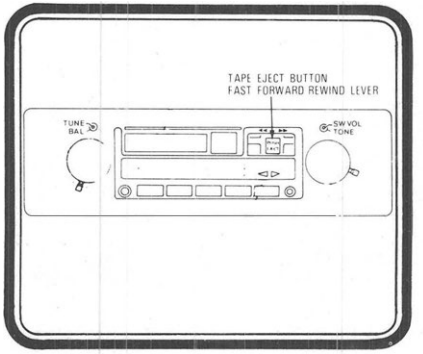
When the tape comes to an end, the auto-changer operates and the next program on the other side is played automatically.

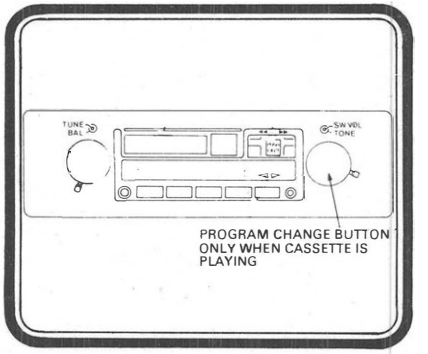
Manual change

When desiring to change the program, lightly press the program change knob.

This knob also incorporates the radio switch and if pressed strongly, the radio will be turned "ON/OFF".





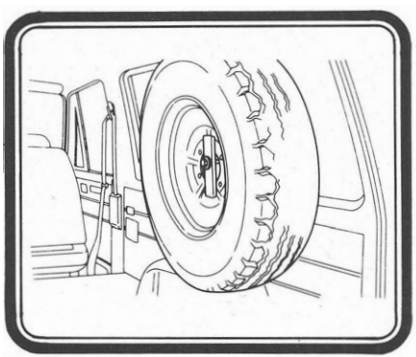


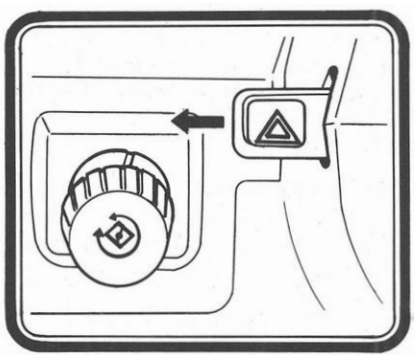
Spare Wheel Storage

The spare wheel is installed on the right rear side wheel arch.

Four-Way Hazard Warning Flasher

- Use the warning flasher to warn other drivers any time your vehicle becomes a traffic hazard, day or night.
- Turn on the hazard warning flasher, with engine ignition off or on, by pulling out the button located on the left side of the steering column behind the steering wheel.
- To cancel the flasher, push the button in.



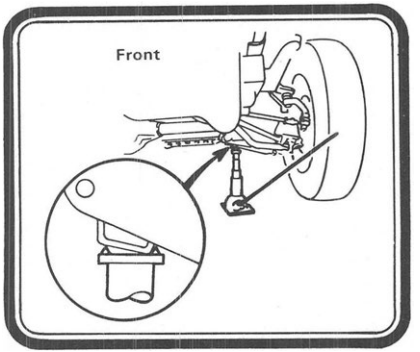


Wheel Changing

The jack and tools are installed under the driver seat and the jacking handle is installed on the radiator sill within the engine compartment.

Instructions

1. Park on a level surface and firmly put on the parking brake. Activate the hazard warning flashers and set transmission in reverse.
2. Block the wheel diagonally opposite to the jacking position. Loosen the wheel nuts slightly. Don't remove them.
3. Using the jack handle position the jack under the vehicle according to the illustration.



4. Operate the jack by placing the square end of the jack handle into the recess provided and turn the handle clockwise to raise the vehicle until the tyre clears the ground.
5. Remove the wheel nuts and change the wheel.
6. Tighten the wheel nuts with your fingers then with the wrench in the order shown. Lower the vehicle until the wheel touches the ground and is held from rotating. Fully tighten the wheel nuts using the sequence illustrated.
7. Completely lower the vehicle and remove the jack using the handle in the bracket provided.

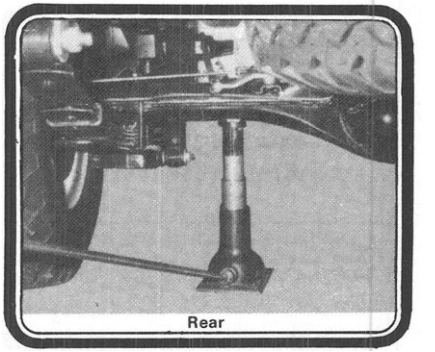
When jacking the front wheels using the bottle jack provided with the vehicle; **care must be taken to ensure jack is located positively on lower control arm as shown in the sketch.**

Safety Hints

1. Carefully follow jacking instructions in order to reduce the possibility of serious personal injury.
2. The jack is designed for use ONLY when changing wheels.
3. Never get beneath the vehicle when it is supported by the jack only.
4. Do not start or run the engine while the vehicle is on the jack only.
5. All Passengers should be out of the vehicle when it is on the jack and the handbrake should be firmly applied.

CAUTION: As soon as practical, after a wheel change, the wheel nut torques should be checked at a GMH Dealership, or by another competent person, to ensure correct tightness.

Wheel Nut-Torques:
88 Newton metres (65 ft. lbs.)



Emergency Starting

Starting With Auxiliary (Booster) Battery

To start the vehicle when the battery is discharged, use a single auxiliary battery of the same nominal voltage, i.e. 12 volts, as the discharged battery, with suitable jumper cables.

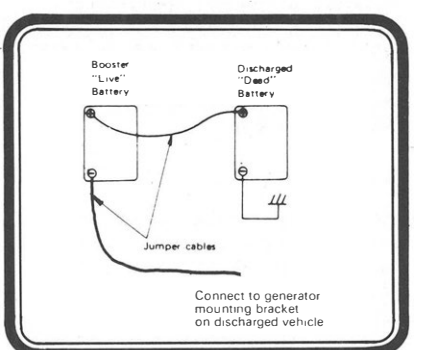
CAUTION:
Never expose battery to open flame or electric spark—battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces—fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Wear eye protection when working with battery.

Both booster and discharged battery should be treated carefully when using jumper cables. Follow exactly the procedure outlined below, being careful not to cause sparks. (See Fig.)

1. Set parking brake and place transmission in neutral. Turn off lights and other electrical loads.
2. Remove vent caps from both the booster and the discharged batteries. Lay a cloth over the open vent wells of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting "live" booster batteries to "dead" batteries.
3. Attach one end of one jumper cable to the positive terminal of the booster battery (identified by a red colour, "+" or "P" on the battery case, post or clamp) and the other end of same cable to positive terminal or discharged battery. Do NOT permit vehicles to touch each other, as this could establish a ground connection and counteract the benefits of this procedure.
4. Attach one end of the remaining negative (−) cable to the negative terminal (black colour, "−" or "N") of the booster battery, and the other end to the generator mounting bracket—taking care that clamps from one cable do not touch the clamps on the other cable. Do not lean over the battery when making this connection. Reverse this sequence exactly when removing the jumper cables. Reinstall vent caps and discard cloths as these may have corrosive acid on them.

CAUTION:
Any procedure other than the above could result in: (1) personal injury caused by electrolyte squirting out the battery vents, (2) personal injury or property damage due to battery explosion, (3) damage to the charging system of the booster vehicle or of the immobilised vehicle.

Do not attempt to jump start a vehicle having a frozen battery because the battery may rupture or explode. If a frozen battery is suspected, examine all fill vents in the battery. If ice can be seen or if the electrolyte fluid cannot be seen, do not attempt to start with jumper cables as long as the battery remains frozen.



Push Starting

- NEVER TOW the vehicle to start because the surge forward when the engine starts could cause a collision with the tow vehicle.
- When being pushed to start the engine, turn off all unnecessary electrical loads, turn starter switch to "ON", depress the clutch pedal and place the shift lever in high gear. Release the clutch pedal when speed reaches 15-25 km/h. Bumpers and other parts contacted by the pushing vehicle should be protected from damage during pushing.

DO NOT ATTEMPT TO PUSH START A DIESEL ENGINED VEHICLE. IN AN EMERGENCY IF YOU ARE UNABLE TO START WITH A JUMPER LEAD, CALL YOUR NEAREST DEALER FOR ASSISTANCE.

Towing

Proper lifting or towing equipment is necessary, when lifting or towing the vehicle to prevent damage to it during any towing operation. Detailed towing information is available at your dealer and has been provided to tow truck operators responsible for movement of disabled or locked vehicles. However, in an emergency, a disabled or locked vehicle may be towed in the following manner:

- Fit the towing rope (safety chains or cables) in the locations as follows;

  Front: either of the 2 tow eyes;
  Rear: by the 1 tow hook.
- When a need has arisen for towing your vehicle, release the parking brake and place the transmission in neutral. It is important that the transmission and rear axle are in good operating condition to enable the vehicle to be towed.
- When towing a vehicle with trouble in the rear axle;

  It is necessary to tow the vehicle with the rear wheels lifted and to disconnect the propeller shaft, or to lift the rear wheels when towing a vehicle with transmission trouble.
- Shift the transfer case into "2H" position.
- Ensure that front free wheeling hubs are both in the unlocked position.

Towing a Disabled Vehicle

Freeing Vehicle From Sand, etc.

If it becomes necessary to rock the vehicle to free it from sand, mud or snow, move the gear shift lever from second to reverse gear. Do not race engine. For best possible traction, avoid spinning wheels when trying to free the vehicle. Use of tyre chains is recommended for temporary assistance when traction is lost on ice or snow.

CAUTION:
Wheel spin should not exceed 55 km/h as indicated on the speedometer. Unless care is taken in limiting rear wheel spin, one spinning wheel can reach excessive speeds, resulting in possible tyre disintegration or differential failure, which could cause personal injury or extensive vehicle damage.

Towing by a Tow Rope Type attachment

The tow rope and safety chains must be attached to one of the two hooks at the front. Make certain that the rope attachment to the tow vehicle is as low as possible.

For the sake of safety and to prevent damage to the vehicle and tow rope it is advisable to avoid jerky movements and to drive slowly during towing operations.

It is always preferable to have a vehicle towed by a tow truck. If this is not possible heed the following cautions.

Never tow a vehicle on four wheels with the ignition switch in LOCK or ACC.

Never tow a vehicle at speeds over 80 km/h.

Don't attach lifting hooks or chains to bumper bars or bumper brackets, or to any damaged part of the vehicle.

Only the driver should be in a towed vehicle.

Vehicles with damaged transmissions must not be towed unless the propeller shaft has been removed.

Towing by Tow Truck

The vehicle should be raised until the lifted wheels are a minimum of 10 cm from the ground, care should be taken to ensure adequate ground clearance at the opposite end of the vehicle.

In cases of rear end damage it may be necessary to lift the rear end of the vehicle and tow on the front wheels only. In such cases the steering wheel must be clamped in the straight ahead position using a clamping device designed for towing service use, such as those provided by towing equipment manufacturers. **Do not use the vehicle's steering column lock for this purpose.**

Vehicle MUST NOT be towed with the front free wheeling hubs locked, especially if it is to be towed with the rear of the vehicle lifted.

Overheating

If this happens, stop by the road side and let the engine idle for about two minutes. Then turn it off and open the bonnet.

While the engine is cooling, check your fan belt for slipping or breakage and check for damage to the radiator hoses. Take care as the hoses will be hot.

If you find major leaks or spot other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

If you do not find a leak or other problem then you should check the level of coolant in the radiator.

CAUTION: Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which is likely to cause serious personal injury.

When the engine has cooled sufficiently, remove the radiator cap as follows:

Cover the radiator cap with a thick cloth and turn it slowly to the left until it reaches a "stop". Do not press down while turning the cap.

Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left until it can be removed. Check the coolant level and add coolant if necessary with the engine idling. Top up the surge tank if required.

After taking one or more of the actions above and once the Temperature Gauge no longer signals an overheat condition you can resume driving at a reduced speed. Return to normal driving after about 10 minutes if the Temperature Gauge does not again show an overheat condition.

If overheating occurs again you should have the vehicle attended to as soon as possible by a qualified mechanic.

Loading

Overloading is a safety hazard and could also shorten the life of your vehicle or its parts.

Maximum loading limits for your particular vehicle are G.V.M. 1,950 kg and G.C.M. refer Trailer Towing.

Tyre Maximum Load Rating and Maximum Vehicle Loading

Kerb weight is the weight of an unloaded vehicle which includes the weight of all coolants and lubricants together with a full tank of fuel. It must be understood that the maximum load rating shown on Tyre Rating Charts are not an actual load capacity that can be used for each wheel.

While the tyre manufacturers rate the tyre for this load application at the maximum pressure shown in their literature, the vehicle manufacturer's suspension, ride and handling characteristics must be taken into account. Therefore, the maximum rear axle loading or the maximum loaded vehicle weight should not be exceeded.

Trailer Towing

G.C.M.—

The maximum gross combined mass is 2800 kg if trailer is equipped with braking which is initiated by driver (over-run operated trailer brakes do not come into this category).
Maximum gross combined mass is 2450 kg if the trailer is not equipped with driver initiated braking.

Towbar Loads

The load imposed on the towbar ball must be included in the maximum rear axle loading and the maximum loaded vehicle mass. (Refer chart) unless a load equalising hitch is used which fully compensates for towbar ball load by restoring the towbar ball height to the unhitched position.

Safe Trailer Towing

- Your vehicle will handle differently with a towed load. It's a good idea to make a proper familiarization run.
- Have your vehicle correctly maintained.
- You should have an extended-arm mirror on both sides of the vehicle if vision is obscured.
- Headlights should be re-aimed if necessary with trailer attached.
- Select a suitable low gear to assist your braking when descending steep grades.
- Avoid sudden steering manoeuvres at speed to minimize trailer mass affecting vehicle and trailer control.

CAUTIONS:

1. Do not use axle-mounted hitches.
2. Trailer brakes must meet State law requirements where vehicle will be operating. Some States specify that the maximum load to be towed must not exceed the vehicle weight.
3. It is permissible to tap into the brake system with a unit not more than 0.21 cc of fluid displacement during the operation of the brakes.
4. When the Tow Bar is not in use, the tongue should be removed in order to prevent injury and damage.
5. CAUTION: WHENEVER A TOWBAR IS REMOVED BE CERTAIN TO HAVE ANY MOUNTING HOLES IN THE UNDERBODY PROPERLY SEALED TO PREVENT THE POSSIBLE ENTRY OF EXHAUST FUMES, DUST AND WATER.
6. Correctly rated tow bar and tongue package must be used.

Vehicle Mass Chart—Estimated

Model	Kerb Weight kg	Front axle Loading kg	Maximum Rear Axle Loading kg	Gross Vehicle Mass
UBS13 (Petrol)	1377	700 min. to 930 max.	1588	1,950 kg
UBS52 Diesel)	1490			

At all times the total of the front axle load and the rear axle load should not exceed the maximum loaded vehicle mass specified

Ball Load

The ball load should be in the range of 7% to 12% of the loaded trailer measured at towing ball operating height condition, (vehicle also laden) when towing tyre pressure should be adjusted to include tow ball load.

Running-in Period

It is best to drive your new Jackaroo for 1500 kilometres before towing a load. If you must tow before this do not exceed 80 km/h on good roads. No heavy off road towing should be attempted before 1500 km.

IMPORTANT:
Handling, durability and economy may be affected by towing a trailer or heavy caravan.
ROOF RACK LOADS: No increase in maximum loaded vehicle weight is allowable where a roof rack is fitted. It must be understood that roof rack loads alter the handling characteristics of a vehicle due to a change in the centre of gravity. When carrying loads on the roof rack avoid abrupt swerving or sharp steering manoeuvres. The load should be evenly distributed. A load of 60 kg is the load limit on rough roads and off road. Loads up to 120 kg are permissible on good roads.

When Oil Pressure Indicator Light Comes On

- If the oil pressure indicator light comes on while engine is running, immediately stop engine.

CAUTION: Do not run the engine at high speed when the oil pressure indicator light is on, otherwise the engine may be damaged.

- Check the level of the engine oil and check for leakage of lubricating oil at the same time. Replenish with proper engine oil up to the specified level, if necessary, and restart the engine to see that oil pressure indicator light goes out.

  If the oil pressure indicator light does not go out even with sufficient level of lubricant in the crankcase, or lubricant is leaking, obtain assistance from your GMH dealer.

When Charge Indicator Light Comes On

- This indicates that the alternator is not generating. Immediately stop your vehicle and check for loose or broken fan drive belt. If loose, adjust belt tension. If the belt is found broken, or if the fan belt is not responsible for the trouble, have your GMH dealer inspect and correct the fault.

CAUTION: Driving under this condition will eventually discharge the battery. If the fan belt is loose or broken, overheating of engine will result. DO NOT drive for an extended period of time if the charge warning light is on.

When an Electrical Device is Inoperative

- If chassis electrical trouble is encountered without extreme damage to any electrical parts, check for burned out fuse, broken wire, poor connections or poor grounding and correct as necessary.

NOTE: The fuse box is located on the left side fender skirt within the engine compartment. It includes 6 fuse cartridges plus 4 spare fuse cartridges. (For amperage of fuses, refer to "Specifications" in the later section.)

CAUTION: When replacing a fuse be sure to use a fuse of the specified amperage. Never install a wire or similar for replacement as it may cause a fire hazard to the vehicle.

- If the cause of trouble cannot be located through the above checks and trouble persists, contact your nearest GMH dealer.

Diesel Engined Vehicle

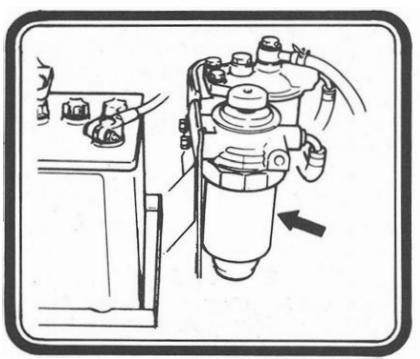
How to Discharge Water from the Sedimentor attached to the Fuel Filter

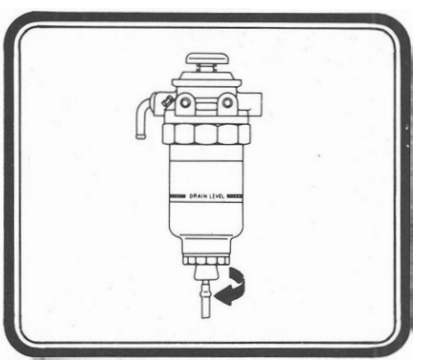
The fuel filter has a sedimentor chamber for settling water separated from fuel.

When the "FILTER" indicator lamp on the instrument panel lights up, water in the sedimentor chamber must be drained.

1. Open the engine hood and place a small container (approximately 0.2 litres capacity) at the end of the vinyl hose beneath the drain plug on the separator.
2. Loosen the drain plug by turning it counter-clockwise (approximately five turns) and operate the manual pump up and down until 60 to 100cc of water has been drained.
3. After draining, securely tighten the drain plug by turning it clockwise and operate the manual pump up and down several times.
4. After starting the engine, check to see that no fuel leaks from the drain plug. Also check to see that the fuel filter indicator light has turned off.

If water separator requires frequent draining, have the fuel tank drained for removal of water at your GMH dealer.





Starting the Engine after running out of Fuel

When the engine stops after running out of fuel, there will be air in the fuel line. After the fuel tank is refilled this air must be removed before the engine can be restarted.

1. Set the transmission into neutral.
2. Depress the clutch pedal fully.
3. Turn the ignition key to the "ON" position and crank the engine continuously for 30 seconds.
4. Wait for 30 seconds before starting the engine, in accordance with the "Engine starting procedure" described previously.

Push Starting

DO NOT ATTEMPT TO PUSH START A DIESEL ENGINED VEHICLE. IN AN EMERGENCY IF YOU ARE UNABLE TO START WITH A JUMPER LEAD, CALL YOUR NEAREST DEALER FOR ASSISTANCE.

Emission Control Systems

PETROL ENGINES ONLY

IMPORTANT: This is an explanation of the operation of the emission control systems fitted to your new vehicle and should remain with the vehicle at the time of resale.

Introduction

There are three areas from which pollutants are emitted:

(a) Exhaust System
(b) Crankcase
(c) Fuel System.

A number of controls have been installed to control the amount of pollutants emitted from your new vehicle.

The following has been produced to assist you in understanding their function by briefly explaining the operation of the various components involved.

Sources of Emissions

During the combustion process in an automotive engine, some of the fuel (hydrocarbons) fails to burn and is discharged into the engine crankcase or exhaust system. Additionally hydrocarbons are emitted into the atmosphere through evaporation of petrol vapours from the fuel tank and carburettor. Of the total hydrocarbons coming from uncontrolled automobiles, about 25% are emitted from the crankcase, 20% from the fuel system and 55% from the engine exhaust.

In addition to hydrocarbons, carbon monoxide and oxides of nitrogen are also formed during the combustion process. These are also discharged into the exhaust system.

Exhaust Emissions

The exhaust of a petrol automobile engine contains three significant air pollutants; carbon monoxide, unburned hydrocarbons, and oxides of nitrogen. It also contains small amounts of solid matter—called particulates—made up largely of lead compounds from the tetraethyl lead used to increase the octane rating of petrol.

Control of hydrocarbon emissions is important since, when subjected to sunlight under certain conditions, they may react with other gases to form photochemical smog. Carbon monoxide does not enter into the complex of photochemical smog reaction, but it is itself a pollutant and, thus, has been controlled to prevent high atmospheric concentrations.

Exhaust Emission Control Systems

Controlled Combustion System (CCS) Components

Carburettor
The carburettor has been calibrated to give a lean mixture of a good quality, particularly at idle or during slow speed operation.

Automatic Choke
An electrically heated metal strip coil is used to open the choke. As the metal strip heats up the choke progressively comes out of operation.

Distributor
The advance curve of the ignition distributor contributes to meeting the emission limits.

Idle Stop Solenoid
An idle stop solenoid, which shuts off the idle fuel mixture when the ignition switch is turned off, has

been introduced to reduce the possibility of engine run-on.

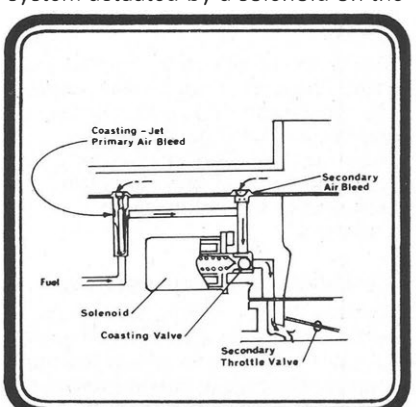
Cooling System Thermostat
The thermostat opening temperature has been revised to meet the requirements of the system during engine warm-up.

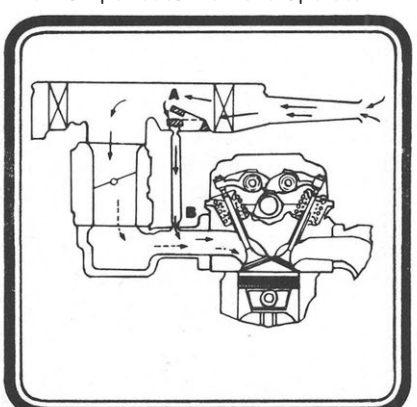
Coasting Richer System (CR)

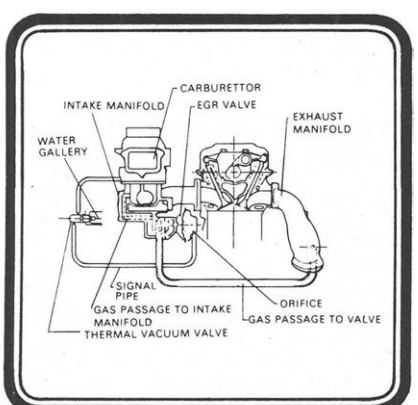
The Coasting Richer System fitted to Holden Jackaroo, is an independently operated auxiliary fuel system actuated by a solenoid on the carburettor. When energised, the solenoid retracts a plunger that allows an air/fuel mixture to enter under the secondary throttle valve. This mixture brings the air/fuel ratio back into balance for efficient combustion while the vehicle is operating under closed throttle conditions in third or fourth gear.

Hot Idle Compensator System (HIC)

Located in the air cleaner the Hot Idle Compensator valve is operated by a bi-metallic arm. (A) As the temperature in the air cleaner reaches approximately 47°C the valve opens and allows filtered air to enter through a restricted orifice into the intake manifold (B) via a connecting hose. This increases idle speed and air flow, leaning off the air fuel mixture and thus reducing HC and CO content. It also gives a smoother idle as intake air temperature increases.







Exhaust Gas Recirculation (EGR) System

This system introduces controlled quantities of exhaust gas into the inlet manifold resulting in lower peak combustion temperatures in the combustion process which, in turn, reduces the formulation of nitrogen oxides.

A thermal vacuum valve opens the vacuum line to the exhaust gas recirculation valve only after the engine coolant has reached a predetermined temperature. At this stage the valve is subjected to a ported vacuum signal from the carburettor.

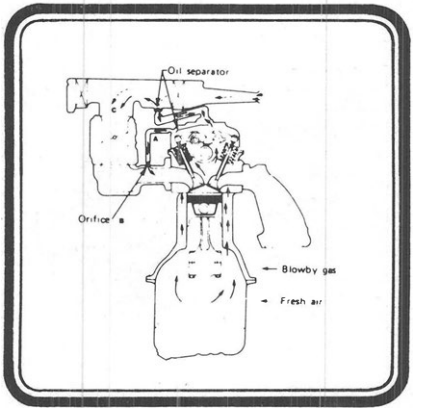
Vacuum Advance Control (VAC) System

This system is designed to control the vacuum signal available to the vacuum advance mechanism of the distributor. A "ported" vacuum spark advance system is used to optimise emission control as well as vehicle performance. When the throttle is in the idle position, the "port" which is above the throttle valve, has no vacuum present. As the throttle opens the port is uncovered providing vacuum advance for normal economy operation.

Crankcase Emission Control System

Positive Crankcase Ventilation (PCV) System

The purpose of the system is to draw the blow-by gases out of the crankcase, into the intake manifold system and thus recycle these gases through the combustion process in the cylinders.



At idle and during normal driving conditions gases are drawn out of the crankcase via a hose (A) through the restricted orifice (B) into the intake manifold. During acceleration or constant high speed operation some of the blow-by gas is drawn into the carburettor via the air cleaner (C).

Crankcase Emissions

Emission of hydrocarbons from the engine crankcase is another source of automotive air pollution. This emission occurs in the following manner.

During the combustion process in all petrol engines, some gases escape past the piston rings and into the crankcase. These gases contain unburned fuel. This "blow-by" occurs because of the very high pressures in the combustion chambers.

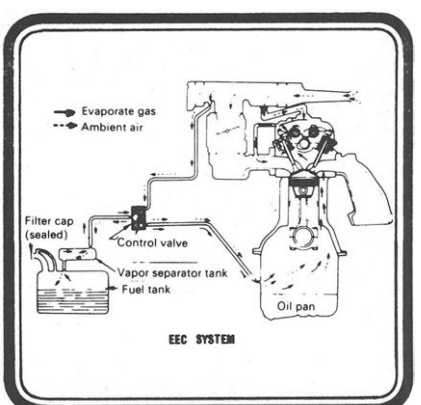
Evaporative Emissions

Another source of emissions from automobiles is evaporation of petrol. This occurs, not only when the fuel tank is being filled, but at other times, even when the vehicle is not

in operation. Special systems to control evaporation have recentlv been developed, and are now installed on Holden Jackeroo.

Evaporative Emission Control (EEC) System

The fuel vapours are directed from the liquid/vapour separator tank to the engine oil pan and purged via the PCV system. In order to prevent vapours flowing to the air cleaner, the relief valve on the air cleaner side



of the Control Valve remains closed while the check valve to the crankcase is open. The relief valve also compensates pressure/vacuum in the fuel tank.

Maintenance

The required owner emission control systems maintenance operations presented in this Owners Handbook should be performed by an authorised GMH dealer or any other qualified service outlet which regularly performs such services.

Vehicle Operations

The maintenance instructions contained in the Owner Handbook, are based on the assumption that your vehicle will be used as designed and is operated in accordance with the instruction provided in the handbook.

Service Manuals

Service manuals, providing greater detail on emission systems, are available for purchase by owners who desire to perform their own vehicle maintenance. These are available from a GMH dealer.

Service Replacement Parts

The emission control systems of your new vehicle were designed, built and tested using GMH parts and the vehicle is certified as being in conformity with Australian Design Rules covering emissions.

Accordingly, it is recommended that any replacement parts used for required maintenance services or for the repair of emission control systems be new GMH parts. Use of replacement parts which are not of equivalent quality may impair the effectiveness of such systems, and may adversely affect your vehicle Warranty.

Vehicle Emission Control Information Label—Petrol Engined Vehicles Only

VEHICLE EMISSION CONTROL INFORMATION

ISUZU

SET PARKING BRAKE AND BLOCK DRIVE WHEELS

ENGINE TUNE-UP CONDITIONS

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONER OFF IF INSTALLED, AIR CLEANER INSTALLED, DISTRIBUTOR VACUUM LINE, CANISTER PURGE LINE AND EGR VACUUM LINE DISCONNECTED AND PLUGGED, IDLE COMPENSATOR VACUUM LINE CLOSED BY BENDING RUBBER HOSE, AND TRANSMISSION IN NEUTRAL
RECONNECT THE VACUUM LINES WHEN ADJUSTMENTS ARE COMPLETED

IDLE SPEED AND IDLE MIXTURE SETTING PROCEDURE

1. TURN THE IDLE MIXTURE ADJUST SCREW ALL THE WAY IN AND BACK OUT 2½ TURNS
2. ADJUST THROTTLE ADJUST SCREW TO 900 RPM.
3. ADJUST SETTING OF IDLE MIXTURE ADJUST SCREW TO ACHIEVE THE MAXIMUM ENGINE SPEED.
4. TURN IDLE MIXTURE ADJUST SCREW CLOCKWISE (LEAN) UNTIL ENGINE SPEED IS DOWN TO 900 RPM.
5. RESET IDLE MIXTURE ADJUST SCREW ¼ TURN COUNTERCLOCKWISE (RICH) FROM ITEM 5 POSITION.
6. RESET THROTTLE ADJUST SCREW TO 900 RPM

IGNITION TIMING SETTING PROCEDURE

1. SET SPECIFIED IDLE SPEED.
2. CONNECT TIMING LIGHT LEAD TO NUMBER 1 CYLINDER.
3. ALIGN MARK ON CRANKSHAFT PULLEY TO TIMING MARK WITH TIMING LIGHT AIMED TOWARD TIMING MARK

ADDITIONAL PROCEDURES

IF AIR CONDITIONER AND POWER STEERING ARE INSTALLED:
TURN A.C. ON MAX. COLD AND HIGH BLOWER, OPEN THE THROTTLE TO APPROX. ½ AND ALLOW THE THROTTLE TO CLOSE. (THIS ALLOWS THE SPEED-UP SOLENOID TO FULL TRAVEL)
ADJUST THE SPEED-UP SOLENOID ADJUSTING SCREW TO SET, IDLE AT 900 RPM

CAUTION: REMOVAL OF AJUSTMENT CAP AND ALTERATION TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR FURTHER INFORMATION

ENGINE	IGNITION		PLUG	IDLE
	DWELL	TIMING	GAP	SPEED
L4 1949 CC	52°	6° BTDC	0.75 mm	900 RPM

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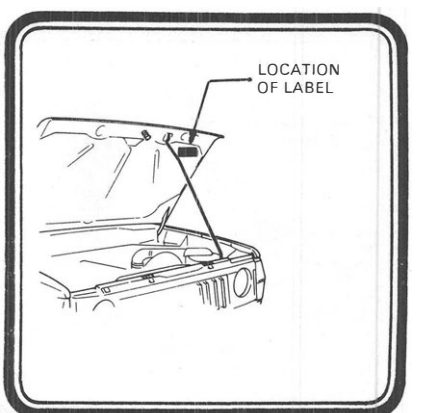


Section 4:

Authorised GMH Dealers

We want you to be happy with your new Jackaroo and with the people you deal with while you have the vehicle.

Normally, any problems which may arise with the sales transaction, operation or servicing of your vehicle will be handled by your Dealer's Sales and Service department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

If you have a problem that has not been settled to your satisfaction here's what to do:

Step 1:

Discuss the problem with one of the Dealer's management people. If you feel you haven't got satisfaction from the Sales Manager or Service Manager — go to the General Manager or the Dealer himself.

Step 2:

If it seems that no-one at the dealership can help fully, write to the Zone Owner Relations Manager in your State outlining your problem and including your name, address and telephone number; the vehicle model number and vehicle identification number; the vehicle delivery date and odometer reading and the Dealer's name and address. This information will be on your Warranty Certificate.

Step 3:

By now you should have satisfaction. If not, you can write to the National Owner Relations Manager, GMH Sales Pty Ltd, P.O. Box 548D, Melbourne 3001.

Always try to sort things out at the Dealership. Owner Relations managers will have to refer the problem back to the Dealer.

GMH Owner Relations Managers

QUEENSLAND
General Motors-Holden's Sales Pty. Ltd.,
Box 728, G.P.O.,
BRISBANE, QLD. 4001.

NEW SOUTH WALES AND AUSTRALIAN CAPITAL TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 481, P.O.,
EDGECLIFF, N.S.W. 2027

VICTORIA AND TASMANIA
General Motors-Holden's Sales Pty. Ltd.,
Victorian Zone Service Division,
Box 548D, G.P.O.,
MELBOURNE 3001.

SOUTH AUSTRALIA AND NORTHERN TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 221, P.O.,
ELIZABETH, S.A. 5112.

WESTERN AUSTRALIA
General Motors-Holden's Sales Pty. Ltd.,
P.O. Box 426,
WEST PERTH, W.A. 6005.

Authorised GMH Dealers

(Note: Dealership names and locations listed are effective as at 1/5/83. These may change from time to time without notice)

NEW SOUTH WALES — Metropolitan Dealers

ARNCLIFFE
Suttons Motors (Arncliffe) Pty. Ltd.,
93 Princes Highway

ASHFIELD
Muirs Motors (Ashfield) Pty. Ltd.,
252 Parramatta Road

BALGOWLAH
Ross Hannon Holden
164 Condamine Street

BAULKHAM HILLS
Tony Packard Holden
Cnr. Victoria Avenue & Windsor Road

BELMONT
Young & Green (Belmont) Pty. Ltd.,
444 Pacific Highway

BLACKTOWN
Townsend Motors
125 Main Street

CABRAMATTA
Ron Hodgson Holden
266 Hume Highway

CAMPBELLTOWN
Clintons Motors Pty. Ltd.,
3-17 Queen Street

CARDIFF
Brian Kelly Holden
35-39 Macquarie Road

CHATSWOOD
Sundell Holden
815-843 Pacific Highway

CHULLORA
Suttons Motors (Chullora) Pty. Ltd.,
Cnr. Hume Highway & Waterloo Road

CROW'S NEST
J. N. Caldwell (Holdings) Pty. Ltd.,
1 Alexander Street

DEE WHY
Graham Patching Holden
Cnr. May and Mooramba Roads

GOSFORD
MKL Gosford Motors Pty. Ltd.,
131 Henry Parry Drive

GOSFORD
Noble Motors
Pacific Highway

HOMEBUSH
Suttons Motors (Homebush)
112 Parramatta Road

HORNSBY
John A. Gilbert Pty. Ltd.,
90 Pacific Highway

KINGSFORD
John Pelligrini Holden
263-271 Anzac Parade

KINGSWOOD
W. L. Chapman Pty. Ltd.,
107-119 Gt. Western Highway

LAKEMBA
Nash Holden
1018 Canterbury Road

LIVERPOOL
A. C. McGrath & Company,
Cnr. Castlereagh St. & Hume Highway

LIVERPOOL
Pat Cullen's Garage,
324-360 Hume Highway

MIRANDA
Greg Ball Holden
1-3 Kiora Road

MOSMAN
Norman G. Booth Properties Ltd.,
501 Military Road

NEWCASTLE
Young & Green Pty. Ltd.,
745 Hunter Street

NEWPORT BEACH
Sundell Holden
Barrenjoey Road

PADSTOW
Purnell Bros. Holden
19 Davies Road

PARRAMATTA
Fair Deal Car Sales Parramatta
65 Church Street

PARRAMATTA
Hillsdon's Pty. Ltd.,
87 Church Street

PENNANT HILLS
Les Vagg Holden
351-355 Pennant Hills Road

RANDWICK
Boyded Randwick,
265 Avoca Street

ROCKDALE
C. V. Holland
571 Princes Highway

RYDE
Muirs Motors (Ryde) Pty. Ltd.,
603-605 Victoria Road

ST. MARY'S
Lance Motors Pty. Ltd.,
Corner Glossop & Harris Streets

SPRINGWOOD
Kerry's Motors Pty. Ltd.,
28 Great Western Highway

TORONTO
Young & Green (Toronto) Pty. Ltd.,
Carey Street

WINDSOR
Hawkesbury Valley Motors,
122 George Street.

WARILLA
Wilson's Warilla Pty. Ltd.,
29 Shellharbour Road

WOLLONGONG
Dwyers Pty. Ltd.,
31-33 Crown Street

WOLLONGONG
Boyded (North Wollongong)
Cnr Station & Flinders Streets **Pty. Ltd.,**

WYONG
W. M. Holden
Pacific Highway

NEW SOUTH WALES —

Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ADELONG
- ALBURY
- ARMIDALE
- BALLINA
- BARADINE
- BARHAM
- BARRABA

- BATHURST
- BEGA
- BELLINGEN
- BLAYNEY
- BOMBALA
- BOURKE
- BOWRAL
- BREWARRINA
- BROKEN HILL
- CANOWINDRA
- CASINO
- CESSNOCK
- COBAR
- COFF'S HARBOUR
- CONDOBOLIN
- COOLAMON
- COOMA
- COONABARABRAN
- COONAMBLE
- COOTAMUNDRA
- COROWA
- COWRA
- CROOKWELL
- CULCAIRN
- DENILIQUIN
- DORRIGO
- DUBBO
- DUNGOG
- EDEN
- FINLEY
- FORBES
- GILGANDRA
- GLEN INNES
- GLOUCESTER
- GOULBURN
- GRAFTON SOUTH
- GRENFELL
- GRIFFITH
- GULARGAMBONE
- GUNDAGAI
- GUNNEDAH
- GUNNING
- GUYRA
- HARDEN
- HAY
- HOLBROOK
- INVERELL
- JERILDERIE
- JUNEE
- KANDOS
- KATOOMBA
- KEMPSEY
- KIAMA
- KURRI KURRI
- KYOGLE
- LEETON
- LISMORE
- LITHGOW
- MACLEAN
- MACKSVILLE
- MAITLAND
- MILTON
- MOLONG
- MOREE
- MORUYA
- MOSS VALE
- MUDGEE
- MULLUMBIMBY
- MUNGINDI
- MURWILLUMBAH
- MUSWELLBROOK
- NARRABRI
- NARRANDERA
- NARROMINE
- NOWRA
- NYNGAN
- ORANGE
- PARKES
- PEAK HILL
- PORT MACQUARIE
- QUIRINDI
- TAMWORTH
- TAREE
- TEMORA
- TENTERFIELD
- TOTTENHAM
- TULLAMORE
- TUMBARUMBA
- TUMUT
- TWEED HEADS
- WAGGA
- WALCHA
- WALLA WALLA
- WALGETT
- WARIALDA
- WARREN
- WAUCHOPE
- WELLINGTON
- WEST WYALONG
- WINGHAM
- WOODENBONG
- YASS
- YOUNG

VICTORIA — Metropolitan Dealers

BENTLEIGH
Boyanton Holden
280 Centre Road

BERWICK
Ross Holden
Princes Highway

BRAYBROOK
Kevin Dennis Holden
272 Ballarat Road

BUNDOORA
Tony Davies Holden
413 Grimshaw Street

BURWOOD
Dustings Hillyer Holden
1200 Toorak Road

CAULFIELD
Booran Holden
1049 Glenhuntly Road

CHELSEA
Harrison Holden
370 Nepean Highway

CHELTENHAM
Balmoral Holden
1212 Nepean Highway

DANDENONG
Graeme Blanchard Holden
Princes Highway

DONCASTER
Lance Dixon Holden
601 Doncaster Road

ELSTERNWICK
Reg. Hunt Motors Pty. Ltd.,
77 Nepean Highway

ESSENDON
Preston Motors (Essendon) Pty. Ltd.,
201-211 Keilor Road

FAWKNER
M. & G. Mantello Holden
1263 Sydney Road

FERNTREE GULLY
Neilson Holden F.T.G.,
980 Burwood Road

FOOTSCRAY
Alan Mance Holden
435 Barkly Street

FRANKSTON
Bayside Holden
140 Dandenong Road

GEELONG
R. & B. Smith Pty. Ltd.,
510 Moorabool Street

GEELONG
Winter & Taylor (Sales) Pty. Ltd.,
23 Cavendish Street

GLEN WAVERLEY
Geoff Brady Holden
565-577 Springvale Road

HASTINGS
McRae Motors Pty. Ltd.,
762 Flinders Road

HEIDELBERG WEST
Arthur Ellis Holden
66 Bell Street

LILYDALE
Noel Dight Holden
Main Street

MORNINGTON
Peninsula Holden
Cnr Nepean Highway & Tyabb Road

OAKLEIGH
Garry & Warren Smith Pty. Ltd.,
1575 Dandenong Road

PRESTON
Graham Hunt Holden
518 High Street

RINGWOOD
Bill Patterson Holden
45-57 Maroondah Highway

SOUTH MELBOURNE
John Martin Holden
132 Sturt Street

WERRIBEE
Ballan Holden
Princes Highway

WEST MELBOURNE
Reg Hunt Holden
577 King Street

VICTORIA — Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars— New for Addresses and Telephone Numbers.

- ALEXANDRA
- ARARAT
- BACCHUS MARSH
- BAIRNSDALE
- BALLARAT
- BENALLA
- BENDIGO
- BIRCHIP
- BOORT
- CAMPERDOWN
- CASTERTON
- CASTLEMAINE
- CHARLTON
- COBRAM
- COHUNA
- COLAC
- COLERAINE
- CORRYONG
- DAYLESFORD
- DIMBOOLA
- DONALD
- DROUIN
- ECHUCA
- EUROA
- FOSTER
- HAMILTON
- HEATHCOTE
- HOPETOUN
- HORSHAM
- KANIVA
- KERANG
- KOOWEERUP
- KORUMBURRA
- KYABRAM
- KYNETON
- LEONGATHA
- MAFFRA
- MANSFIELD
- MARYBOROUGH
- MILDURA
- MINYIP
- MORTLAKE
- MORWELL
- MURRAYVILLE
- NAGAMBIE
- NHILL
- NULLAWIL
- NYAH
- ORBOST
- OUYEN
- PORTLAND
- QUAMBATOOK
- RAINBOW
- ROCHESTER
- RUTHERGLEN
- SALE
- SEA LAKE
- SEYMOUR
- SHEPPARTON
- ST. ARNAUD
- STAWELL
- SWAN HILL
- TALLANGATTA
- TIMBOON
- TRARALGON
- UNDERBOOL
- WANGARATTA
- WARBURTON
- WARRACKNABEAL
- WARRNAMBOOL
- WODONGA
- WONTHAGGI
- WYCHEPROOF
- YARRAM
- YARRAWONGA

AUSTRALIAN CAPITAL TERRITORY

BELCONNEN
John Wright Holden
Josephson Street

BRADDON
Beazley & Bruce (ACT) Pty. Ltd.
44 Mort Street

PHILLIP
Commonwealth Motors Pty. Ltd.
158 Melrose Drive

QUEENSLAND — Metropolitan Dealers

ALBION
Bill Harrison Car Sales
Frodsham St. & Crosby Rd.

ASPLEY
Zupps (Aspley) Pty. Ltd.,
1442 Gympie Road

CLEVELAND
Russell Smith Holden
Cnr Queen & Doig Streets

IPSWICH
Zupps Holden
Warwick Rd & Churchill St.

MOOROOKA
John Sivyer Holden
1060 Ipswich Road

MT. GRAVATT
Zupps Motors Pty. Ltd.,
1310 Logan Road

NEWSTEAD
Eagers Retail Pty. Ltd.,
95 Breakfast Creek Road

NUNDAH
Eagers (Northside)
1319 New Sandgate Road

PETRIE
North Pine Motors Pty. Ltd.,
Gympie Road

REDCLIFFE
Village Holden
425 Elizabeth Avenue

SPRINGWOOD
Midways Holden
Pacific Highway & Brennan St.

TARINGA
Centenary Holden
135 Moggill Road

WINDSOR
Leach Motors
146 Newmarket Road

WYNNUM
Doug Barton Holden
200 Tingal Road

QUEENSLAND — Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ATHERTON
- AUGATHELLA
- AYR
- BEAUDESERT
- BEERWAH
- BILOELA
- BOWEN
- BUNDABERG
- CABOOLTURE
- CAIRNS
- CALOUNDRA
- CHARLEVILLE
- CHARTERS TOWERS
- CLERMONT
- CLONCURRY
- CUNNAMULLA
- DALBY
- DIRRANBANDI
- EMERALD
- GATTON
- GLADSTONE
- GOONDIWINDI
- GYMPIE
- INGHAM
- INNISFAIL
- JULIA CREEK
- KILCOY
- KINGAROY
- LAIDLEY
- LONGREACH
- MACKAY
- MAREEBA
- MONTO
- MOURA
- MT. ISA
- MURGON
- NAMBOUR
- NANANGO
- PROSERPINE
- QUILPIE
- ROCKHAMPTON
- ROMA
- SOUTHPORT
- SPRINGSURE
- STANTHORPE
- ST. GEORGE
- TARA

- TOOWOOMBA
- TOWNSVILLE
- TULLY
- WARWICK
- WINTON

SOUTH AUSTRALIA — Metropolitan Dealers

ADELAIDE
City Holden,
203-221 Grenfell Street

ELIZABETH
Peter Page Holden
Elizabeth Way

GLENELG
John H. Ellers Pty. Ltd.,
282 Brighton Road

MALVERN
Claridge Motors Pty. Ltd.,
361-367 Unley Road

MILE END
United Motors Retail
71 West Beach Road

PORT ADELAIDE
Smith Motor Co. Pty. Ltd.,
171 Commercial Road

VALLEY VIEW
Plaza Holden
817-839 North East Road

SOUTH AUSTRALIA — Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- BALAKLAVA
- BERRI
- BURRA
- CEDUNA
- CLEVE
- CRYSTAL BROOK
- CUMMINS
- GLADSTONE
- JAMESTOWN
- KADINA
- KEITH
- KINGSCOTE
- KINGSTON
- LAMEROO
- LOXTON
- MAITLAND
- MALLALA
- MENINGIE
- MILLICENT
- MINLATON
- MT. BARKER
- MT. GAMBIER
- MURRAY BRIDGE
- NARACOORTE
- ORRORoo
- PETERBOROUGH
- PORT AUGUSTA
- PORT LINCOLN
- PORT PIRIE
- QUORN
- RENMARK
- STRATHALBYN
- TANUNDA
- WAIKERIE
- WHYALLA
- WUDINNA
- YANKALILLA

WESTERN AUSTRALIA — Metropolitan Dealers

CANNINGTON
Brian Gardner Holden
1308 Albany Highway

FREMANTLE
Shack Motors
64 Queen Victoria Street

GOSNELLS
Lance Gibbons Holden
2325 Albany Highway

MELVILLE
Melville Motors Pty. Ltd.,
532-536 Canning Highway

MIDLAND
John Goldie Holden
161 Great Eastern Highway

MORLEY
Metro Motors Pty. Ltd.,
212 Walter Road

NAVAL BASE
Shack Motors Cockburn Pty. Ltd.,
Rockingham Road

OSBORNE PARK
North City
Cnr. Scarborough Beach Rd.
& Harbourne Street

PERTH
City Motors
505 Newcastle Street

VICTORIA PARK
Young's Holden
529 Albany Highway

WANNEROO
Phoenix Holden
316 Berriman Drive

WESTERN AUSTRALIA— Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New
for addresses and Telephone Numbers.

- ALBANY
- BEVERLEY
- BOYUP BROOK
- BROOKTON
- BRUCE ROCK
- BUNBURY
- BUSSELTON
- CARNAMAH
- CARNARVON
- COLLIE
- CORRIGIN
- CRANBROOK
- DALWALLINU
- ESPERANCE
- GERALDTON
- GNOWANGERUP
- GOOMALLING
- KALGOORLIE
- KATANNING
- KELLERBERRIN
- KUNUNURRA
- MANDURAH
- MANJIMUP
- MERREDIN
- MOORA
- MORAWA
- NAREMBEEN
- NARROGIN
- NORTHAM
- PINGELLY
- PORT HEDLAND
- QUAIRADING
- WAGIN
- WYALKATCHEM

TASMANIA — Metropolitan & Country Dealers & Service Dealers

HOBART
Motors Pty. Ltd.,
179 Macquarie Street

BURNIE
Motors Pty. Ltd.,
84-89 Marine Terrace

DEVONPORT
Motors Pty. Ltd.,
628 Victoria Parade

KING ISLAND
King Island Motors Pty. Ltd.,
Netherby Road, Currie

LAUNCESTON
Motors Pty. Ltd.,
165 Brisbane Street

SMITHTON
Motors Pty. Ltd.,
16 Nelson Road

ULVERSTONE
Motors Pty. Ltd.,
99 Reibey Street

NORTHERN TERRITORY — Dealers

ALICE SPRINGS
Kittle Bros. (Alice Springs) Pty. Ltd.,
Cnr Wills Terrace & Railway Terrace

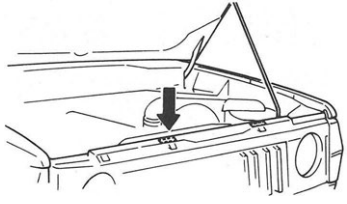
DARWIN
Suttons Motors (Darwin) Pty. Ltd.,
Cnr. Mitchell and Knuckey Streets

Section 5: Specifications

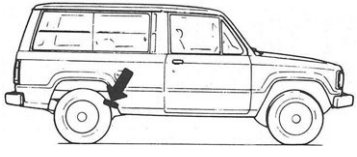
SERIAL NUMBERS:

V.I.N. PLATE:

Vehicle identification plate:
It is attached to the upper face of radiator sill in the engine compartment.

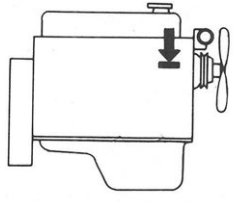


Chassis number:
It is stamped on the front side of the chassis member in the position shown below.

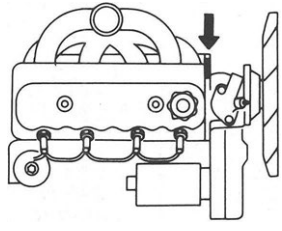


Tyre Inflation Pressure Plate:
Rear face of the driver's door.
Colour Identification Number Plate:
Installed in the engine compartment.

Engine number: Petrol
It is stamped on the right front side of the cylinder body.



Engine number: Diesel
It is stamped on the left front side of the cylinder body.



Engine Tune-up Data Plate
(Petrol) Bonnet inside panel.
(Diesel) Air cleaner duct pipe.

SPECIFICATIONS

	UBS13 (Petrol engine)	UBS52 (Diesel engine Turbocharged)
Dimensions		
Wheel base	2,650 mm	
Tread: Front	1,340 mm	
Rear	1,300 mm	
Minimum ground clearance	225 mm	
Minimum turning radius	5,400 mm	
Weight		
GVM (Permissible)	1,950 kg	
Axle capacity:		
Front	930 kg	
Rear	1,600 kg	
Engine		
Model and type	G200Z, four cycle, water cooled, overhead camshaft, in line, carburetted petrol	C223, Turbo four cycle, water cooled, overhead valve, in line, swirl chamber diesel
Compression ratio	8.4:1	21.0:1
Piston displacement	1.949 cc	2,238 cc
Kilowatts Gross	65 Kw @ 4,600 rpm	55 Kw @ 4,000 rpm
Torque Gross	140 Nm @ 3,000 rpm	170 Nm @ 2,500 rpm
Valve clearances:		
Inlet	0.15 mm	0.45 mm
Outlet	0.25 mm	0.45 mm
Injection pressure		135 kg/cm²
Injection timing	6° BTDC/900 rpm	10° BTDC
Firing order	1-3-4-2	1-3-4-2
Distributor contact point gap	0.4 to 0.5 mm	

	UBS13 (Petrol engine)	UBS52 (Diesel engine— Turbocharged)
Spark plug gap	0.75 mm	—
Head bolt tightening torque	98 Nm	78.4 Nm
Engine oil capacity	5.0 litres	6.5 litres
Coolant capacity	7.6 litres	11.9 litres
Total fuel capacity	100 litres	100 litres
Single tank capacity	50 litres	50 litres
Clutch		
Type	Cable control, dry single plate with diaphragm springs.	
Pedal free play	16 mm	
Transmission with Transfer Case		
Model and type	MSG4K / MSG4E — 4 speed, fully synchronised transmission, high-low manually switchable transfer.	
Transmission gear ratios (to 1)	Gear Positions: 1st 2nd 3rd 4th Rev.	
	MSG4K Gear Ratios: 4.122 2.493 1.504 1.00 3.720	
	MSG4E Gear Ratios: 3.785 2.165 1.413 1.00 3.720	
Transfer gear ratios	High 1:1 Low 1.87:1	
Lubricant capacity	2.5 litres	
Rear Axle*		
Type	Spiral bevel pinion and hypoid gear, semi-floating	
Gear ratio	4.556 : 1	
Oil capacity	1.3 litres	

SPECIFICATIONS

	UBS13 (Petrol engine)	UBS52 (Diesel engine—Turbocharged)
Front Axle		
Type	Ductile cast iron housing and axle tube, fully floating with CVJ and DOJ	
Gear ratio	4.555:1	
Oil capacity	1.0 litres	
Steering		
Type	Recirculating ball	
Steering wheel free play	10 to 30 mm	
Oil capacity		
Manual	0.2 litre	
Power	1.0 litre	
Wheel alignment:		
Toe-in	0	
Camber	0° 35'	
Caster	0° 30'	
King pin angle	7° 25'	
Service Brakes		
Type	Hydraulic disc in front, self-adjusting drum brake in rear with vacuum servo	
Pedal free play	7-10 mm	
Parking Brake		
Type	Mechanical internal-expanding, acting on rear wheels	
Brake lever travel notches	12 to 14 when pulled with a force of 30 kg	

	UBS13 (Petrol engine)	UBS52 (Diesel engine—Turbocharged)
Suspensions		
Type: Front	Independent, torsion bar spring, with stabilizer bar, with double-acting shock absorbers	
Rear	Semi-elliptic leaf springs, with double-acting shock absorbers	
Wheels	6.0JJ x 15	
Tyre size:		
Front and rear	215SR15-4PR	
Tyre inflation pressure:		
At unloading		
Front	175 kPa (26 p.s.i.)	
Rear		
At loading		
Front	175 kPa (26 p.s.i.)	
Rear		
Electrical		
Type	12 volts system with negative polarity ground	
Battery volt/amp. hr.	NS70 (12/65)	N70Z (12/70)
Starter volt/kw	12/1.2	12/2.0
AC generator volt/amp. hr	12/35	12/40

*Rear axle differential incorporates a Limited Slip unit of the Power Lock type.

Fuse System

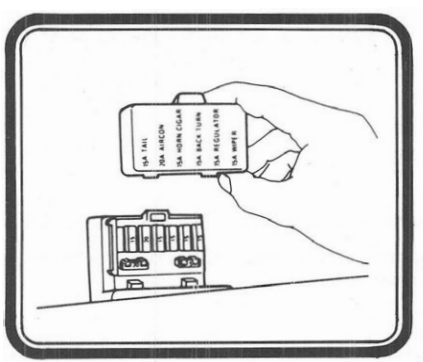
Fuse Junction Block

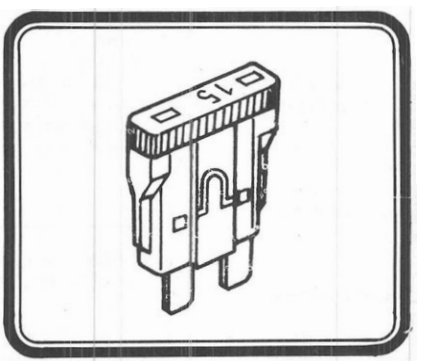
The fuse junction block is installed on the left side of the fender skirt in the engine compartment. The cover can be pulled out easily by hand.

The fuse junction block contains 6 fuse cartridges in use and 2 spare cartridges.

If a fuse has been blown check to locate the cause of trouble and give necessary service attention before replacing the fuse. When replacing the fuse, use a cartridge of the same amperage.

Circuits	Amperage
Tail lights	15
Air conditioner	20
Horn and combination lights	15
Back-up and turn signal lights	15
Regulator	15
Wipers	15





Fusible Link Wires

If the headlights or other electrical components do not work and the fuses are O.K., check the fusible link wires.

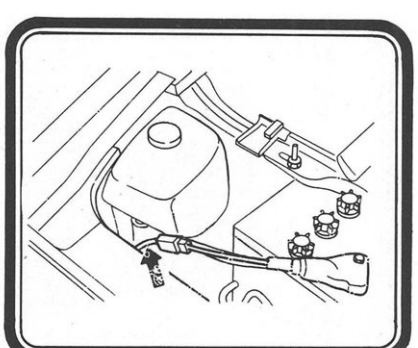
If a fusible link wire is melted, it must be replaced.

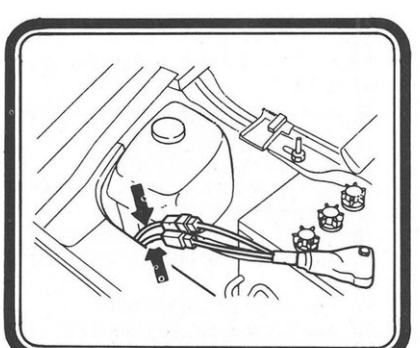
Always use genuine GMH fusible link wires for replacement.

Never use wire—even for a temporary fix. It may cause extensive damage and possibly a fire.

If there is an overload in the circuits from the battery, the fusible link wires are designed to melt before the entire wiring harness is damaged.

The cause of electrical overload should always be determined before replacing the fusible link wires.



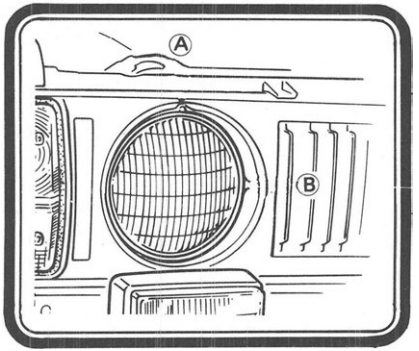


Bulb Replacement

Headlights—Quartz Halogen

Note: Do not touch bulbs or reflectors with bare hands. Greasy fingers will cause stains which evaporate—eventually resulting in a dull reflector. Grease spots and even finger marks on halogen-bulbs will lead to bulb failure within a short time.

Inadvertently stained bulbs may be cleaned with tissue paper, or a clean non-fuzzy cloth, using alcohol or white spirits.



IMPORTANT: Headlight aiming is a safety item and should be carried out by your GMH Dealer, the adjusting screws are on both sides of each headlight cover cap.

1. Open engine hood.
2. Remove plug socket and seal from lamp base.
3. Press in retaining ring against the reflector and turn anti-clockwise. Withdraw the lamp holder.
4. Remove bulb from lamp holder.
5. Insert new bulb so that the lug on the bulb engages in the recess in the lamp holder. Avoid touching the glass of the headlight globe as this drastically reduces the bulb life.
6. Proceed in reverse sequence to removal.
7. Re-aim headlights (headlight aim varies from bulb to bulb and the powerful Halogen beam is a safety hazard to other road users if it is aimed too high). The headlight focus can be adjusted by means of the two (2) adjusting Screws.
   A: For vertical adjustment.
   B: For horizontal adjustment.
   Bulb: 60/40 watts.

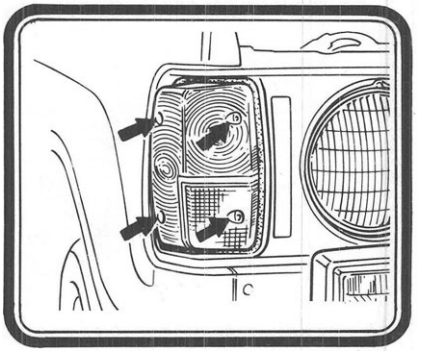
Front combination lights

Remove screws retaining the lens and remove the lens. To remove light bulb, push it in and turn counter-clockwise.

Clearance lights
Bulb: 5 watts.

Turn signal lights
Bulb: 21 watts

Side turn signal lights
Bulb: 5 watts.



Rear Combination Lights

Remove screws retaining the lens and remove the lens. The bulbs have the following capacities:

Stop/tail lights: 23/8W.
Turn signal lights: 23W.
Back-up lights: 23W.

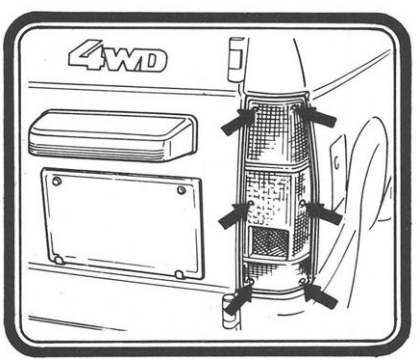
Licence Plate Lights

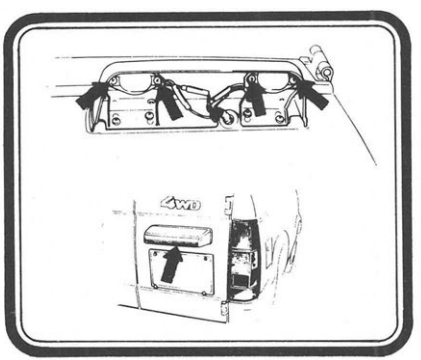
Remove screws retaining the lens and remove the lens.

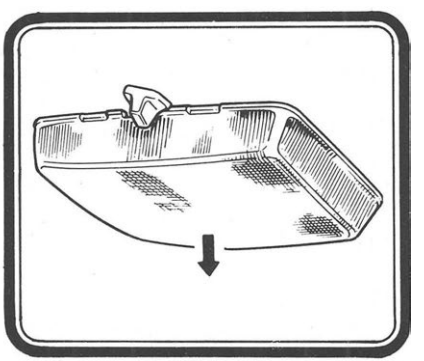
The bulb has a capacity of 5W.

Dome Light

The lens can be pulled out easily with hand. The bulb has a capacity of 10 W.







Section 6: Appearance, Maintenance and Service

Paintwork

The paint on your Jackaroo is finished in acrylic enamel and will stay bright and new-looking provided you wash and wax it regularly, using approved products. Weekly washing is recommended if the vehicle is being used constantly or if it is not parked under cover.

Before you wash the paintwork, thoroughly wash in and around the front and rear windows and check that door drain holes, tailgate drain holes and rocker sill vents are clean. Hose off any heavy dirt on the glass, but leave final cleaning of the glass until last.

Washing tips

Use either cold or warm water — preferably running.

Use clean chamois cloths, sponges or rags (old, clean linen is better than new material for glass).

Don't wash your vehicle in bright sunlight — it will streak.

Grease and oil can be removed with a little kerosene or white spirits. Flush with water afterwards.

If petrol is spilled during refilling, flush with water immediately.

Be sure that your cleaner, polish or wax is suitable for acrylic finishes. AC Delco Wash & Wax from your GMH Dealer is highly recommended.

Insect spots can be removed with a mixture of 220 grams of baking soda in 2 litres of water. Flush clean afterwards. New tyre look can be restored with AC Delco Tyre Black from your GMH Dealer.

Tarnished chrome responds well to AC Delco Polishing Liquid.

CLEANING OF INTERIOR

Care and Cleaning of Upholstery

Dust and dirt particles which accumulate on the surface of the interior trim should be removed every few weeks — more often with constant hard driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains from an upholstery fabric, it is necessary to determine as accurately as possible:

1. The type of fabric.
2. The nature and age of the stain.
3. The effect of the stain removal agent upon the colour, structure and general appearance of the trim material.

It is essential that stains be removed from the trim material as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they very often become oxidised or set, and removal becomes difficult, if not impossible.

Cleaning P.V.C. Coated Fabrics

Vinyl (P.V.C.) coated fabrics are used for seating, headlining and auxiliary trimming. The grades used vary according to their function. P.V.C. fabrics are generally made with fabric bases upon which synthetic resins are applied. Care of P.V.C. fabrics is a relatively simple but important matter. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle. Should dirt accumulate and become embedded in the material pattern the following procedure is recommended.

1. Using lukewarm water and soap, work up thick suds on a piece of cheesecloth, and apply to the surface. A soft bristle brush can be used to advantage to remove stubborn stains or dirt embedded in the grain of the material.
2. The operation should be repeated using only a damp cloth and no soap.
3. The trim should then be wiped dry with a soft cloth.

The above cleaning instructions also apply to the rubber floor mats.

IMPORTANT: Where stubborn stains on P.V.C. fail to respond to the above methods, a light application of AC Delco Upholstery Cleaner and Deodorant (Part Number M37222) with a soft cloth will invariably prove satisfactory.

Do not use cleaner excessively.

Cleaning Cloth Trim Material

Where the seats in your vehicle are upholstered with cloth, the following instructions should be observed.

Most loose dirt and dust can be removed by a vacuum cleaner or a soft brush. **Do not use a Whisk Broom or a Coarse Hair Brush.** If normal soiling should take place, it is recommended that the fabric be sponged lightly with warm water containing a detergent and a small amount of ammonia. The fabric should then be rubbed lightly, and if necessary, sponged again to remove anything stubborn. Soak up excess fluid with dry cloth. AC Delco Upholstery Cleaner may be used to advantage, but should be used sparingly.

Cleaning Carpets

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt; then using AC Delco Car Care Upholstery Cleaner, clean approximately one square foot at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner. After cleaning the carpet, use an air

hose to fluff the carpet pile, then dry the carpet. After the carpet is completely dried, use an air hose to again fluff the carpet pile.

Cleaning Seat Belts

Cleaning of the seat belts can be carried out by using a mild non-abrasive soap and lukewarm water. After washing be sure to thoroughly sponge the washing solution out of the belts.

CAUTION: Do not bleach or dye belts since this may severely weaken belts.

Cleaning Glass

Glass

The interior glass areas of the vehicle should be cleaned using a non-abrasive household detergent and clean, soft cloth.
Care must be taken when cleaning inside the rear windscreen so as not to damage the heating element.

CAUTION: Many cleaners may be toxic or flammable, or may cause damage to the interior. When cleaning the interior, do not use volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, gasoline or naphtha for any cleaning purpose.

IMPORTANT: Be sure the vehicle is well ventilated while using any cleaning agents. Follow the manufacturer's recommendations when using such products.

CLEANING OF EXTERIOR

CAUTION: Care should be used when moving the vehicle after washing, in case water has affected the brakes.

Frequent hosing and washing of the vehicle cannot be overstressed as the most effective precaution against corrosion.

The effects of salts and other corrosive materials from road surfaces can result in accelerated rusting and deterioration of underbody components such as brake and fuel lines, frame, underbody floor pan, exhaust system, brackets, parking brake cables. These corrosive effects, however, can be reduced by periodic hosing of the underbody with plain water whenever the vehicle is being washed. In geographic areas having a heavy concentration of corrosive materials it is recommended that the complete underbody be inspected and washed at least once each year, preferably after a winter's exposure. Particular attention should be given to cleaning out underbody members where dirt and other foreign materials may have collected.

Glass

Special care should be taken to avoid scratching the glass when it is being cleaned. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. An accumulation of these on the windshield can make night driving very unpleasant. Flush off any heavy mud deposits on the glass when washing the body, but leave the final cleaning and polishing until afterwards.

Each section of glass should then be washed in turn, making sure that the water, its container and the sponge are quite clean and free from grit. If the glass is very dirty, a little household ammonia mixed with warm water will help. Clean old linen cloth is better than new material for polishing glass.

Insect Spots

Insect spots on the paint finished parts of the vehicle can be easily washed off by using a solution containing 2 litres of water in which approx. 220 grams of baking soda (Bicarbonate of Soda) has been dissolved. Flush the washed parts with clean water. After washing and drying, park the vehicle in a shaded area.

Washing

The acrylic enamel finish on your vehicle is superior to ordinary finishes and will stay bright and new looking for years with little or no polishing, provided it is given a reasonable amount of regular washing to keep off road grime.

To preserve the original paint finish of the vehicle, it is essential that it is kept clean by frequent washing. Washing not only removes dirt and road grime that settles on the vehicle, but also dilutes acids which accompany such grime, in particular, salt from air or sea spray encountered in coastal areas which often become trapped in crevices. Tree sap, road tar, excretion from insects and industrial fall out often contain harmful chemicals and other foreign matter that may permanently damage the paint finish of the vehicle. These should be removed without delay, using an effective removal agent.

Regular Washing

If the vehicle is in continuous use, it should be washed at least once a week with either cold or warm water (preferably running water), using clean chamois leathers, sponges or rags free from dirt or grit likely to scratch the paint finish. It is good practice to first hose the vehicle to remove as much of the grit and grime as possible before swabbing the surface. Do not wash the vehicle under bright sunlight when high temperatures are being experienced, as this will resullt in a streaky, watermarked finish.

AC Delco Wash and Wax (Part No. M37226) loosens road grime to make washing easier and leaves paint shining clean.

NOTES:

1. Calcium chloride and other salts, road oil and tar, tree sap, chemicals from factory chimneys and other foreign matter may damage any known automobile finish if allowed to remain in contact with the paint film.
2. Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to acrylic finishes. When purchasing a cleaner, polish or wax, ensure that it can be safely used on an acrylic finish.
3. Grease and oil, and even tar if it's fresh, can be removed from the finish with a little Kerosene or White Spirits. As a precaution against staining, wash and polish as soon as possible the area from which the foreign matter has been removed.

IMPORTANT: If petrol is spilt on the paint finish when refilling, owners are advised to ensure that it is flushed off with clean water immediately. The reason is that petrols currently in use have a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.

Paint Work Inspection

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust and thus affect paint finish. Any deep scratches, cracks or breakdown in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust "creep" will extend beyond the damaged area. This applies particularly in sub-tropical areas or coastal districts, where the moist or salt-laden atmosphere accelerates rusting if it is allowed to develop through neglect. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to elements for prolonged periods.

The vehicle therefore should be garaged whenever possible.

Chromium Plated Parts

Generally, a rub with a clean soft cloth will be all that is necessary to remove dust from the chromium plated parts. However, if the chromium is covered with dead insects or mud, it should be washed with warm soapy water and then cleaned with AC Delco Polishing Liquid (Part Number M37221). This polish should also be used if the chromium shows signs of tarnishing. Do not use ordinary metal polishes as they may contain abrasives which would ruin the plating.

Polishing

Even though the acrylic enamel finish on your vehicle is more durable than ordinary enamels, under certain conditions you may wish to polish your vehicle to provide maximum protection against road dirt and industrial fall out, etc. Also, the application of a polish may be required to remove foreign matter which is not normally removed from vehicles by washing. Over a period of time, such foreign matter may build up on the paint surface to the detriment of its overall appearance.

Do not attempt to apply a polish without first washing to remove existing loose grit, surface dirt, dust or grease, etc.

Either AC Delco Polishing Liquid (Part No. M37221) or AC Delco Polishing Cream (Part No. M37220) will quickly and easily impart a deep, rich shine when used as directed on the container.

Tyres

Sponging with cold water is all that is necessary for normal cleaning of the tyres. Oil and grease can, and should, be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanics' hand soap or kitchen cleaning powder, may be used if necessary. Thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

New Tyre look can be restored by using Tyre Black.

GM Replacement Parts and Accessories

GM Parts & Accessories Division of General Motors-Holden's Ltd. is established to distribute GM Parts through Authorized GMH Dealers located throughout the Commonwealth from whom you can obtain new parts.

GM Parts are manufactured to the high standards of quality established for General Motors-Holden's vehicles — to the correct specifications and of the same materials as the original parts on your vehicle. They are, therefore, guaranteed, and it is definitely in your interest to specify them.

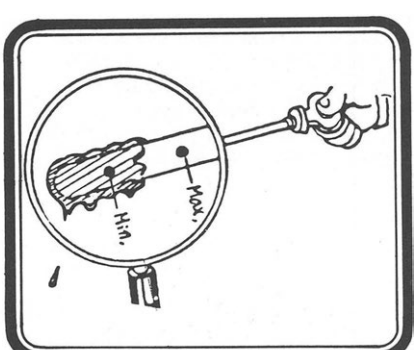
Oil

CAUTION: As with any machinery, extreme care should be taken when carrying out any inspections or maintenance job. If you have any doubts about your own ability, please have the job done by a qualified mechanic.

Initial Oil Fill

A high quality SE oil was installed in your petrol engine at the factory. In the turbo diesel a high grade CD oil was installed. It is not necessary to change this factory-installed oil prior to the recommended normal change period. However, check the oil level more frequently during the running-in period since higher oil consumption is normal until the piston rings become seated.

NOTE: Non-detergent and other low quality oils are specifically not recommended. Only the use of SE engine oils for petrol and CD engine oil for turbo diesel and proper oil and filter change intervals assure you of continued proper lubrication of the engine.



Maintaining Oil Level

The oil level indicator is marked ADD and FULL. The oil level should be maintained between the two markings, neither going above the FULL marking nor under the ADD marking. Check the oil level frequently and add oil when necessary.

To check the oil level accurately, the vehicle must first be on level ground and the engine should be stopped for at least ten minutes. Checking the oil level too soon after stopping the engine will not allow sufficient time for oil, which has circulated to the upper parts of the engine, to drain back into the engine oil pan, and consequently, a false low reading will be obtained. Topped up under these conditions will result in the oil pan being over-filled.

Remove the indicator, wipe it clean with clean cloth or paper before reinserting it firmly. Pause for a second then withdraw the indicator to check the reading of the oil level.

The distance between the ADD and FULL marks represent approximately 1 litre on all engines. Oil level should be checked more often during the running-in period since somewhat higher oil consumption could be experienced until piston rings become seated.

Oil Consumption

In many cases, it is erroneously thought that engines should not use any noticeable amount of oil between oil changes. In actual fact every internal combustion engine should use a certain amount of oil to act as a lubricating and cooling agent especially during the running-in period.

There are several factors that contribute to oil consumption, apart from mechanical malfunction, that should be noted, and these are: the type of oil, the seating of piston rings, the oil level, and the conditions under which the vehicle is operated.

Running-in

The initial factory-fill oil should remain in the engine for the recommended period. (Refer this section.) Oil consumption may be high during the running-in period.

Lubrication

An engine is dependent on oil to lubricate the cylinder walls, pistons, rings and valve stems. A film of oil is left on the cylinder walls and burned on the next firing stroke while the film on the valve stems is drawn into the combustion chamber and burned. These quantities, while small, explain why an engine does use some oil.

Oil Level

Maintaining a proper oil level is also an important factor in controlling oil consumption. An overfull crankcase allows the reciprocating parts of an engine to splash oil on to the cylinder walls in quantities greater than the piston rings can control. This excess oil will be drawn into the combustion chambers and burned.

Overfilling the crankcase can result if the oil level indicator markings are not understood. (Refer to previous notes.)

Dilution

Probably the most prevalent complaint of oil consumption comes from the motorist whose vehicle is driven at below normal operating temperatures for long periods of time. The oil becomes diluted by fue. and moisture which settle in the crankcase, raising the oil level and creating a false reading on the oil level indicator. For example, in a vehicle that has accumulated 1500 kilometres of city operation and has consumed a normal amount of oil, the level may not have dropped from the FULL mark, due to dilution. If this vehicle is then driven for some distance at highway speeds on a warm day, the dilution elements evaporate, lowering the oil level and the motorist assumes the oil is being lost.

Speed Consumption

Sustained high engine speeds will increase oil consumption because higher speeds increase engine temperatures which lower oil viscosity and allow more oil to reach the combustion chamber.

If it is considered that the above possibilities can be accounted for but excessive oil consumption appears to continue, then it is recommended that you discuss the situation with a GMH Dealer.

NOTE: Non-detergent and other low quality oils are specifically not recommended. The use of break-in oils, tune-up compounds, friction-reducing compounds and other supplemental additives are not recommended; their use will only increase operating costs.

REMINDER: The use of proper engine oils and observing oil change intervals are your best assurance of continued reliability and performance from the engine of your vehicle.

In the event of an operational problem, consult your GMH Dealer for advice before using supplemental additives.

Diesel Engine

Fuel Requirements
Use Diesel fuel of 47 cetane rating or higher.

Oil Filter Replacement

The full-flow oil filter, with non-return check-valve, filters all the engine oil delivered by the oil pump. For this reason the interval of filter change is very important.

The oil filter should be replaced as shown in the maintenance schedule.

Under prolonged dusty driving conditions it is recommended that the oil filter be replaced more often.

NOTE: After the oil filter has been replaced, additional oil must be added.

Always use AC brand of oil filters, for replacement purposes.

Petrol Engine

Fuel Requirements
The vehicle is designed to operate on a good quality clean fuel and 89 octane rating. The use of a fuel which is too low in anti-knock property will result in "Detonation" (a metallic rapping noise generated during the combustion process). If "Detonation" persists, consult an authorized GMH Dealer. Continued operation of an engine which exhibits symptoms of "Detonation", may result in damage for which General Motors-Holden's is not responsible under the terms of the Warranty.

Oil Change Intervals

The amount of time between changes depends a lot on what you use the vehicle for, and where it is driven.

The table indicates oil change intervals for vehicles used "normally".

If you usually drive on dusty roads; if you often take long trips; or — strangely enough — if you only use your car for to and from the office or the shops, you will need to change the oil more often.

NORMAL OPERATING CONDITIONS

Prevailing Daytime Temperatures	Regular Oil Change Interval
ABOVE 10°C	EVERY 3 MONTHS OR 5000 KM— WHICHEVER OCCURS FIRST
BELOW 10°C	EVERY 1 MONTH OR 2500 KM— WHICHEVER OCCURS FIRST

ABNORMAL OPERATING CONDITIONS — EVERY 1 MONTH OR 2500 KM

Lubrication

Lubricants should be carefully selected according to the lubrication chart. It is also important to select viscosity of lubricants according to the atmospheric temperature by referring to the following table

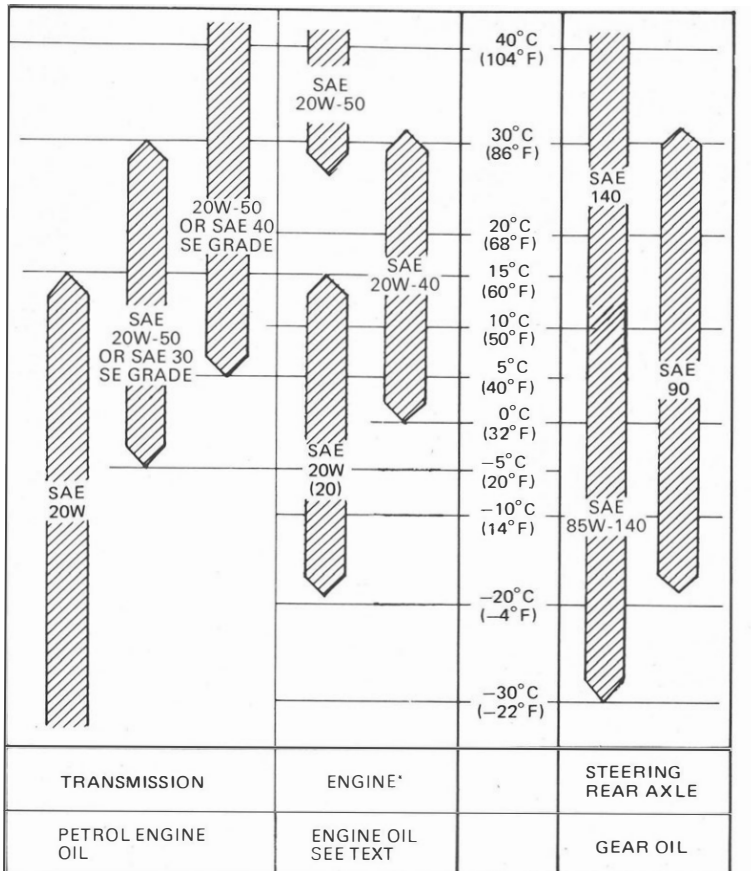
ENGINE OIL

Use SE engine oil for petrol engine, and CD engine oil for diesel engine.

NOTE: Non-detergent and other low quality oils are specifically not recommended. The use of SE engine oils for petrol engine (CD for turbo diesel engine) and proper oil and filter change intervals promote continued reliability and performance from your engine.

The proper oil viscosity also helps cold and hot starting.

See next page for recommended Diesel engine oils.



Recommended Oils for Turbocharged Diesel Engine

CD grade
Besco S-3 Engine Oil
BP Vanellus C3
BP Vanellus C3 Multigrade
Chevron Delo 400 Motor Oil
Chevron Delo 300 Motor Oil
Castrol or Deusol CRD
Castrol or Deusol CRF
Castrol or Deusol RX Super
Caltex RPM Delo 400 Oil
Caltex RPM Delo 300 Oil
Essolube D-3
ENI AGIP F.1 Diesel Sigma
Mobil Delvac 1200 Series
Mobil Delvac 1300 Series
Mobil Delvac Super
Mobil Delvac SHC
Shell Rimula CT Oil
Shell Rimula X Oil
Shell Myrina Oil
Sunfleet Super C
Sunfleet Dieselube
Sunfleet Dieselube XD
Texaco Ursa Oil Super
Texaco Ursa Oil LA-3
Total Rubia S
Total Rubia TM
Union Guardol Motor Oil

Drivetrain Oils

Manual Transmission

Check the oil level every six months or 10,000 kilometres whichever comes first — and add oil to the level of the plug hole if necessary.

The oil should be changed at the one month or 1500 km service, then every two years or 40,000 kilometres.

Front and Rear Axle Oil

This should be checked every six months or 10,000 km whichever comes first. If necessary, add oil to bring the level of the oil to the plug hole.

The oil should be changed at the one month or 1500 km service then every two years or 40,000 km.

Lubricants and Filters

Chassis

Engine Oil
Use oil to specifications. (Refer pages 86 and 88 for grades and application.)

Transmission Oil
Use same oil as above (Petrol Engine Oil).

Rear Axle Oil
Use LSD Hypoid gear oil HN 1561.

Front Axle Oil
Use Multipurpose Hypoid gear oil in this order of preference. HN 1386 or HN 1187 or HN 1181.

Front Suspension and Steering Ball Joints
E.P. Type Lithium grease. Always ensure that a high quality grease of suitable type is used.

Front Wheel Bearings
Grease to HN 1227 specification.

Brake fluid
Fluid to GM HN1796 specification.

Control Systems
Brake and Clutch Pedal Pivots, Clutch Linkage, Transmission Control Linkage, Accelerator Pivots, Parking Brake System, Pivot and Guides. Grease to HN 1225 (LG-2) specification.

Body
Normal use of a vehicle causes metal-to-metal movement at certain points in the body. Noise, excessive wear and improper operation at these points will result when a protective film of lubricant is not provided. Servicing and lubrication should be an integral part of the lubrication service and should be checked out as required every 6 months or 10,000 kilometres.

Powdered Graphite
(Apply through key aperture)
Door Lock Cylinder
Instrument Panel Compartment Lock Cylinder
End-Gate Lock Cylinder

Power Steering Fluid
DEXRON II* Automatic Transmission Fluid GM Part No. 9985286
*DEXRON is a Registered Trademark of General Motors.

Non-Staining Grease or Zinc Oxide Grease
(Use sparingly on parts likely to be contacted by clothing)
Engine Hood Catch and Lock
Engine Hood and Door Hinges
End-Gate Locking Mechanism and Hinges

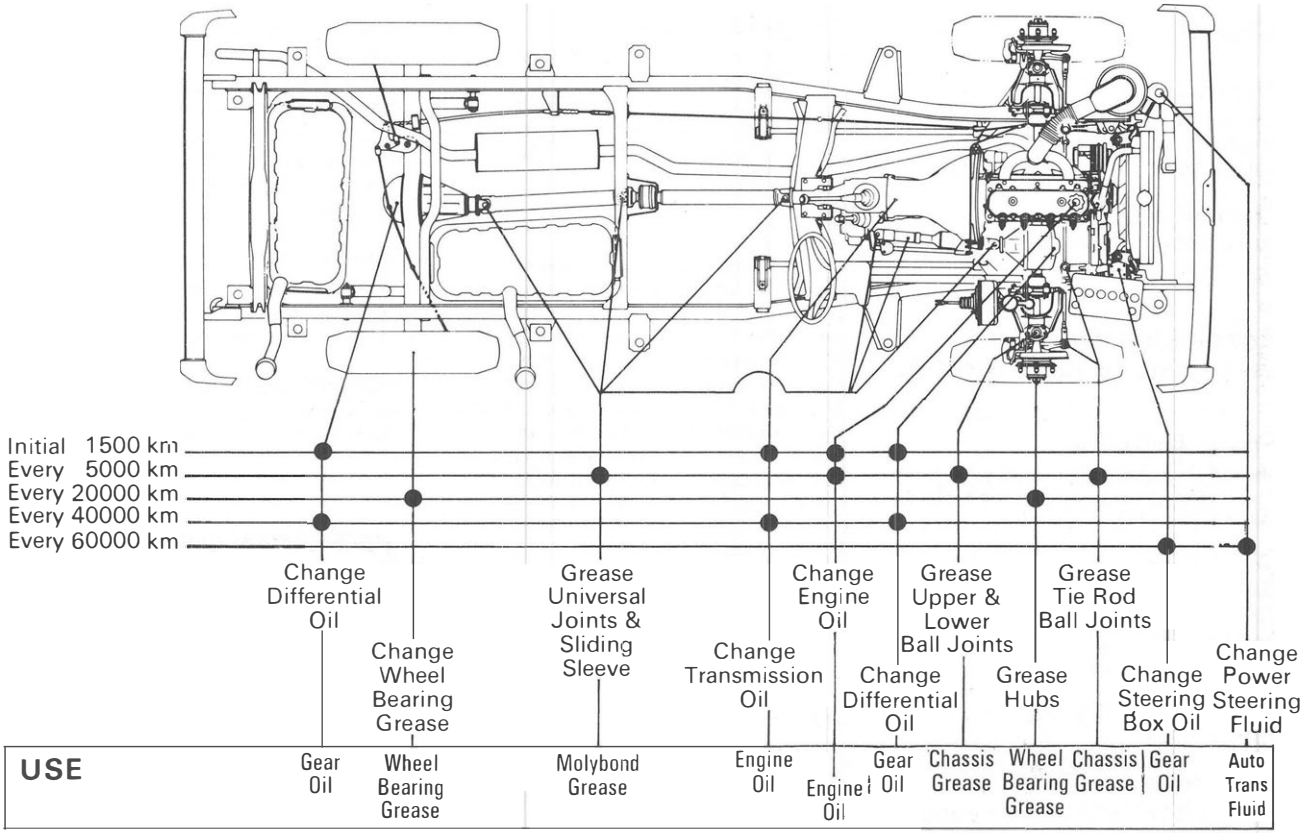
Solidoil
(Use sparingly on working surfaces)
Door Lock Fork
Door Lock Striker Bolt

IMPORTANT: Remove all lubricants that may have dropped or spread onto the external paint finish.

IMPORTANT

It is the owner's responsibility to have the engine oil changed at 3 months/5000 km intervals under normal operating conditions.

LUBRICATION CHART



Engine Cooling System

CAUTION: If your cooling system overheats, see "Engine Overheating" in Section 3. Continued operation of the engine even for a short time could result in a fire and the possibility of personal injury and/or severe vehicle damage.

Radiator Surge Tank

Your car is fitted with a radiator surge tank. As the car is driven, the engine coolant is heated and expands. The radiator pressure cap senses this expansion and releases coolant out through the overflow hose into the surge tank. This reservoir is situated in the engine compartment behind the left hand headlamp. When the vehicle has stopped and the system cools down, coolant is drawn back into the radiator.

Radiator Pressure Cap

This cap is designed to allow the cooling system to operate at temperatures over 100°C without boiling. It does this by causing the system to operate under pressure which in turn raises the boiling point of the coolant. The pressure rating of the radiator cap should be checked regularly by your dealer for correct operation. If a replacement cap is needed, be sure to use a cap specified for your model.

Thermostat

The cooling system is protected and controlled by a thermostat installed in the engine coolant outlet to maintain a satisfactory operation temperature of the engine. This thermostat is designed for continuous use through both winter and summer and need not be changed seasonally.

Recommended Coolant

The vehicles coolant system should be filled or topped up only with a premixed coolant comprising clean water and permanent type (ethylene glycol) anti-freeze fluid to GM 1899M specification. A 50-50 mixture is recommended, however, a mixture of 1 part anti-freeze to 2 parts water would be acceptable.

This coolant will help to protect components of the cooling system from corrosion and provide adequate freeze protection where temperatures of 0°C and below may be encountered.

If you live in an area where water has a high level of mineral or chemical content, use rainwater or distilled water.

If you need to use bore water in an emergency—change it for the above coolant made with clean water as soon as possible.

Follow the directions on the pack when adding anti-freeze solution.

Cold Weather Draining

If your vehicles cooling system does not contain anti-freeze then the radiator and cylinder block MUST be drained before parking in freezing conditions. Failure to do so could result in bursting the radiator and/or cracking the cylinder block if the coolant freezes.

CAUTION: Draining of the engine radiator and cylinder block will not drain the coolant out of the heater core therefore it may still be subject to freezing damage.

Checking Coolant Levels

The amount of coolant in the cooling system is to be checked as follows:

The level in the radiator should be checked at least weekly, preferably when the engine is cold.

CAUTION: Do not remove the radiator cap when the engine and radiator are hot. Scalding fluid and steam can be blown out under pressure if the cap is taken off too soon.

The level of coolant in the radiator should be maintained up to the level of the overflow tube.

The level of coolant in the surge tank should be checked at regular intervals e.g. when refuelling at a service station.

When the engine is cold the coolant level should be at or just above the "MIN" mark on the tank. When the engine is at normal operating temperature the level should be somewhere between the half full and the "MAX" mark on the tank.

Top up the surge tank and radiator as required, using the recommended premixed coolant.

If you regularly have to add coolant to either the radiator or the surge tank you should see your GMH dealer for a cooling system check.

Draining and Flushing

Every twelve months or 20,000 km drain and refill the radiator.

Fill with a premixed coolant comprising clean water and anti-freeze to GM 1899M specification.

Drain the cooling system by loosening the drain valve on the radiator and the drain plug on the left side of the engine block.

WARNING: Anti-freeze solutions are poisonous.

REMINDER: Replace and properly tighten all drain points before refilling.

Do not use cleaning chemicals to loosen scale unless the cooling system is afterwards thoroughly reverse flushed, otherwise loosened scale may clog the radiator water passages.

For complete removal of loose sediment and sludge from the radiator and water jacket, pressure flushing with an air and water gun is recommended, and as this method of flushing requires special equipment we suggest you have this work carried out by your GMH Dealer.

Brake Master Cylinder

Every week check the fluid level in the master cylinder. The fluid level visible through the reservoir should be maintained between the MIN and MAX level markings. If the fluid is between these levels do not remove master cylinder cap. If the master cylinder requires constant topping up it could indicate that a malfunction exists in which case it should be immediately brought to the attention of your servicing GMH Dealer.

See label adjacent to Master Cylinder for instructions.

Battery (12 volt)

The battery is located in a metal cradle mounted on the left hand fender skirt in the engine compartment and the negative (]) terminal is "grounded". Never disconnect the battery or generator when the engine is running. Always connect Positive ([) to Positive ([), Negative (]) to Negative (]) whenever a battery charger is used.

Fluid Level

The battery fluid level should be maintained at 1 cm above the plates by adding distilled water. Distilled water will be required more frequently in summer than in winter. It is a good plan to check the fluid level at about 1 month intervals in Summer and two months in Winter. When long daylight runs are made, water may need to be added still more frequently. Do NOT overfill, particularly when cold, as subsequent operation at higher temperatures and on long distance driving may cause loss of acid. Keep all battery terminals clean and tight.

When cleaning batteries, wash first with a dilute ammonia or soda solution to neutralize any acid present. Then flush off with clean water. Care must be taken to keep the vent plugs tight so that the neutralizing solution does not enter any cells. Dry off the affected area of the body, battery mounting and retainer, then repaint with paint resistant to sulphuric acid. After reconnecting battery cables, apply a thin coating of petroleum jelly to the battery posts and cable clamps to help retard corrosion.

CAUTION: Never expose a battery to open flame or electric spark — battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces — battery fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Flush any contacted area immediately with water. Wear eye protection such as industrial safety spectacles or goggles when working on or near a battery. Remove rings, metal watchbands and other metal jewellery before jump starting or working around a battery, and be careful in using metal tools — if such metal should contact the positive battery terminal (or metal in contact with it) and any other metal on the vehicle, a short circuit may occur which could cause personal injury. Batteries and battery acid should always be kept out of the reach of children.

Air Cleaner

The air cleaner element should be removed and cleaned every 6 months or 10,000 km and replaced every 24 months or 40,000 km. If the vehicle is operating in extremely dusty conditions for any length of time the air cleaner should be cleaned more frequently.

Ensure that the thermal vacuum signal hose is connected to the carburettor and air cleaner when re-installing the air cleaner.

CAUTION: Do not remove the engine air cleaner unless temporary removal is necessary during repair or maintenance of the vehicle. When the air cleaner is removed backfiring can cause fire in the engine compartment.

Engine Ventilation Filter

The engine ventilation filter is located in the air cleaner cover.

Every 12 months or 20,000 kilometres clean the engine ventilation intake filter with kerosene or a suitable solvent. Dry with compressed air.

EVAPORATIVE CONTROL SYSTEM

Every 24 months or 40,000 kilometres check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter in lower section of canister.

WINDSHIELD NOTES

Windshield Cleanliness

It is important, at all times, that the windshield surface be maintained in a clean condition so that the wiper blades may be as effective as possible in wiping clean the surface.

Use of the windshield washer and Optikleen washer solvent will assist in removing dirt and dust particularly when driving at a time when no rain is falling; however, every opportunity should be taken to wipe or wash the windshield by hand (most Service Stations have such a service today as a courtesy item).

Abrasive materials must never be used to remove a build-up of road scum, etc., as a scratched windshield will cause difficulty in achieving proper vision, particularly in night driving. Therefore, after the windshield has been cleaned with a wet sponge etc., it should be wiped dry with a soft, lint free cloth or even a ball of newspaper.

WIPER WASHER OPERATIONS

Wiper Blades — Cleaning

Much of the oil road scum thrown up onto the windshield glass, causing smearing when the wiper is switched on, transfers onto the wiper blade. Many owners, whilst they methodically clean the windshield glass, omit to clean the wiper blades and consequently smearing of the glass re-appears immediately the wiper blades are set in motion.

The blades can be cleaned by simply lifting them off the windshield glass and then using warm water and a recognised washing fluid. If so desired, the wiper blade can be removed from the arm for cleaning purposes by simply disengaging it from the arm in accordance with the following instructions:—

1. Lift up tab at the end of the arm and remove blade sideways.
2. To replace, slide the blade pin into the hole in the arm clip, noting an audible click.

Washer Reservoir

A plastic reservoir containing liquid for the windshield washer is mounted in the engine compartment. It is suggested that when checking the radiator coolant level, the washer reservoir be checked also. For a crystal clear view Optikleen Washer Solvent (Part Number M37068) can be used by adding from the graduated container, the recommended proportion.

CAUTION: Do not operate the wiper blades by hand as this may damage the wiper drive mechanism.

In dry conditions, if the wiper blades are used to clean dust and dirt from the windshield always use the washer system to wet the windshield. Ensure that the windshield washer reservoir is checked regularly all the year round.

Should the wiper blades be frozen to the windshield, it is imperative that they be lifted off and freed by hand before switching on the windshield wiper system.

Tyres

Inside the lid of your glove box you will find a chart showing correct tyre inflation pressures for your vehicle under different operating conditions.

Always check tyre pressure when the tyres are cold, and always use a tyre pressure gauge. Your eye can deceive.

Tyre Pressure Recommendations

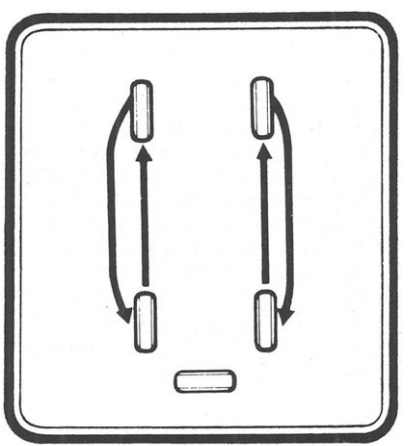
1. Tyre pressures should be checked when the tyres are cold (when the vehicle has been standing for 3 hours or more, or driven less than 2 kilometres).
2. Tyre inflation pressure may increase as much as 30 kPa (4 psi) when hot, (after the vehicle has been driven 15 kilometres or at speeds of more than 95 km/h). DO NOT reduce pressures to compensate for this build up. As a guide for checking warm/hot tyres under all conditions, allow pressure to read 30 kPa above the recommended.
3. It is recommended that the pressures are checked at least weekly. For constant long distance or rough road travelling daily checking is recommended. To maximise the protection of tyres on vehicles operating for prolonged times over rough roads, i.e. particularly in outback conditions, it is recommended that the cold tyre inflation pressure recommended for high speed operation at maximum load condition as shown on the tyre placard is used.
4. Do not forget the spare tyre: It is advisable to maintain the spare at the **maximum recommended tyre inflation pressure** listed on the placard.

Tyre Rotation

If no abnormal or uneven wear is evident, if you have not experienced any vibration, tyres need not be rotated.

Front tyres are more prone to wear on the shoulder while rear tyres wear more on the crown. Wear can be evened out by rotating the tyres.

Check them at the 5,000 km inspection, then at intervals of 10000 km. Your GMH dealer will be able to diagnose any unusual signs of wear and can also balance the wheels and tyres for you.



Tyre Replacement

Use only tyres recommended.

Don't mix cross ply and radial ply tyres on your vehicle and don't mix radial ply tyres with other types of tyres. New tyres should be fitted in pairs to the front but if replacing only one tyre, pair it with the least worn of the old tyres.

And if you replace all tyres with tyres of a different size, your speedometer readings may be affected. Have the car checked afterwards.

Tyres with a higher speed rating and/or with a maximum load rating in excess of that listed on the tyre placard for tyre size listed are also acceptable as replacements provided they are fitted to a suitable rim size.

Uneven or abnormal tyre wear is usually the result of incorrect inflation pressure, improper wheel alignment, wheels being out of balance, or poor driving habits. The original equipment tyres incorporate built-in tread wear bars which act as indicators to assist in determining when the tyres have worn to the point of needing immediate replacement.

When the wear bars appear, tyre replacement should not be delayed, in the interests of safety.

Heavy Treads

Caution must be exercised when using tyres with heavy treads, including tyres designed to gain traction in bad weather conditions.

At sustained high speeds, this type of tyre will run at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer.

Any doubts concerning the fitness of the tyres on your vehicle for the purpose you require should be referred to your GMH Dealer, who will be pleased to advise.

Tyres and Fast Motoring

It should be noted that all the maximum speed recommendations require the following:

The tyres must be in

1. good condition, the walls and treads being free of cuts and abrasions.
2. treads must not be excessively worn, tread pattern should still be visible over the entire tread surface.
3. the tyres should not be retreaded or regrooved.
4. the tyre pressures should be as shown on the rear face of drivers door.

SUGGESTED GUIDE FOR CHECKING HOT TYRES —

As a guide for checking warm/hot tyre "under all conditions", allow pressure to read 30 kPa above that recommended for cold tyre.

Tyre Traction

CAUTION: A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydro-planing, may cause partial or complete loss of traction, which adversely affects vehicle control and stopping ability. To reduce the possibility of traction loss, the following precautions should be observed:

1. Reduce speed levels during rainstorms or when roads are slushy and if the road has standing water or puddles.
2. Replace tyres when tread wear indicators are visible.
3. Check that tyres are properly inflated for speed range and vehicle loading.

Tyre Damage and Repair

Tyres with cuts, splits or cracks deep enough to expose the fabric, should be replaced. Bulges also indicate internal damage, and these tyres should also be replaced. Tyres with doubtful damage should be removed from the wheel and examined by a competent person.

If a pressure loss occurs while driving, do not attempt to drive on the deflated tyre more than is necessary to stop safely. Driving even a short distance on a deflated tyre can damage it beyond repair.

When puncturing objects are removed, repairs will have to be made according to the recommendations of the tyre manufacturer.

It should always be remembered that a tyre which has been repaired will not be able to be operated safely at the rated maximum speed and due care should be taken.

Replacement Wheels

When replacing wheels for any reason, care should be taken to ensure that the wheels are equivalent to those removed in diameter, rim width and offset.

Service and Maintenance

Owner Maintenance and Responsibility

The following items should be checked weekly between services:

- Battery Fluid level
- Engine Oil level
- Cooling system level (radiator)
- Brake master cylinder fluid level
- Windshield washer reservoir level
- Battery terminals (for corrosion)
- Tyre pressures
- Condition of tyres

It is your responsibility to have your car serviced regularly and to ensure that the mechanic has attended to all points listed for that particular service. Not to do so may affect your warranty.

Service Dealer's Responsibility

Your Service Dealer must attend to all items listed for any particular service and must see that the validation coupon is signed.

Service coupons are in this book in the following section.

CAUTION: If you have any doubts about your own ability, please have the job done by a qualified mechanic.

Owner's Responsibility

Normal maintenance services, as listed in the servicing schedule contained on pages 101 and 102 in this book, and replacement of service items, are the responsibility of the Owner and such are NOT considered, under the provisions of the New Vehicle Warranty, to be rectification of defects in material and workmanship.

Items such as wheel alignment, brake adjustment as a result of lining wear, etc., which may require servicing due to fair wear and tear, will be carried out at the owner's cost.

We strongly recommend that you read the Warranty Certificate at the front of the Owner handbook so that you are conversant with your entitlements.

Water and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, greatly contribute to the need for constant maintenance services to promote efficient vehicle operation. (Refer over.)

Operating Conditions

Normal Conditions

The maintenance instructions contained in this publication are based on the assumption that the vehicle will be used as designed and is operated in accordance with the instruction provided in the owner handbook.

IMPORTANT

It is the owner's responsibility to have the engine oil changed at 3 months/5000 km intervals under normal operating conditions.

Extreme Conditions

Extreme operating can be described as that where a vehicle operates continually for a period of 1 month or 1500 kilometres under the following conditions:

1 Dust, dirt, loose road metal.
2 Muddy and wet areas.
3 Cold weather—below 10°C.
4 Stop-start, as experienced in inner city driving
5 Caravan or Trailer hauling.

In such circumstances it is suggested that the following items be serviced more frequently than at the periods recommended in the Guardian Maintenance Plan.

Conditions	Items
1—3—4	Engine oil.
1	Engine oil filter.
1—2	Front suspension, steering, and parking brake system.
5	Automatic transmission fluid.
1	Engine air cleaner element.
2	Front wheel bearings.
2	Manual transmission, drive line joints and rear axle.

If at any time it is considered that the above items or other items should be more frequently serviced due to the type of operation or before a long trip, discuss the situation with the service manager of your GMH Dealer.

Maintenance Plan

The 3-Step Service Concept

The fundamental points are:

1. A basic service interval period of 6 months or 10 000 kilometres whichever occurs first.
2. A "step" principle of 3 correlated services.
3. The frequency of these services is:
   "A" service items — Serviced every 6 months or 10,000 km
   "B" service items — Serviced every 12 months or 20,000 km
   "C" service items — Serviced every 24 months or 40,000 km

Service Designation	—A—	—B—	—C—
Items	Group I *	Groups * I & II	Groups * I, II & III

Up to the 3rd step in the items programmed the earlier steps are included.
The total time/distance range of this Maintenance Schedule is 66 months or 110,000 kilometres.

*See pages 101 and 102 for group definitions.

Total Programme

Pre-Delivery Service

1 Month—1500 Kilometres Inspection and Adjustment

Then as required: (Months — km)

A @ 6-10,000
B @ 12-20,000
A @ 18-30,000
C @ 24-40,000
A @ 30-50,000
B @ 36-60,000
A @ 42-70,000
C @ 48-80,000
A @ 54-90,000
B @ 60-100,000
A @ 66-110,000

IMPORTANT

It is the owner's responsibility to have the engine oil changed at 3 months/5000 km intervals under normal operating conditions.

Maintenance

Petrol & Diesel Engined Models

Once the first service has been completed, dependability and performance are influenced by the degree of maintenance the vehicle receives.

Safety, economy and dependability cannot be assured unless regular maintenance is performed, preferably by factory-trained technicians. It is preferable to receive these services from the Dealer from whom the vehicle was purchased. However, Maintenance will be attended to by any Authorised GMH Dealer on presentation of the Maintenance Plan Booklet, no matter where you may be situated.

What The Owner Should Do

When service, according to the time or distance interval, is due, the owner should present this Maintenance Plan Booklet to a GMH Dealer as an authority to have the items listed attended to. After this work is completed, the owner should see that the Validation Record is stamped and signed by the Dealer. The Booklet with the Validations completed is evidence that a vehicle has been adequately maintained . This is important as it will not only assist in the determination of Warranty Claims, but enhance the value of the vehicle whenever resale is contemplated.

What The Servicing Dealer Has To Do

Attend to all items listed for the particular service. When this has been done, it is most important that the Service Coupon Validation be signed by the Dealer or his representative.

All operations listed on the Service Coupons should be carried out fo'lowing the procedures set out in the appropriate service manual.

The one month — 1500 kilometre service will be performed without cost for labour by the Selling Dealer.

This service may be carried out by another GMH Dealer provided you have a letter of introduction from the Selling Dealer. Your Dealer will supply the necessary letter of introduction upon request.

Maintenance Plan

GROUP I Under Hood Operations
Change engine oil. (Every 5000 km)
Check all fluid levels, accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
Wipe inside of distributor cap. (Petrol only)
Inspect engine air cleaner element for restriction and condition. Replace if necessary.
Check air pre-heat control for correct cold and hot operation.
Check operation of idle stop solenoid.
Check automatic choke for free operation.
First "A" Service Only. Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
Clean radiator core—check for blockages.

GROUP I Under Vehicle Operations
Change engine oil filter. (Every 10,000 km)
Check transmission oil level.
Check rear axle oil level and front axle (4 X 4).
Inspect and lubricate front suspension and steering joints.
Lubricate transmission shift and clutch linkages as applicable.
Check parking brake operation and lubricate system. Adjust if necessary.
Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage—brake and fuel lines, shock absorbers and mountings.
Inspect engine and transmission mountings.
Check and adjust clutch control pedal height.
Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
Inspect disc brake pads for wear.

GROUP I Interior Vehicle Operations
Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
Seat belt inspection. Examine webbing condition, buckle operation and rectractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

GROUP I Exterior Vehicle Operations
Lubricate door handle pivots, door hinges, striker bolts or plates and hood lock and catch as required.
Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment.

Maintenance Plan

GROUP II

GROUP II Under Hood Operations
Lubricate distributor. Check condition of cap and rotor. Check TVRS cables for resistance. Replace spark plugs. Check ignition timing.
EGR System Only. Clean valve and manifold opening.
Auto Choke.* Check and adjust if necessary settings.
Check ignition timing, engine idle speed and fast idle speed on choke cam. Adjust if necessary.
Serviceable PCV Valves—Dismantle, clean and re-assemble. Disposable PCV Valves—Test and replace if necessary.
Clean or replace fuel filter as necessary.
Drain and refill cooling system. Add specified quantity of anti-freeze.
GROUP II Under Vehicle Operations
Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
Inspect front wheel bearings and check adjustment. Repack only if necessary.
Check steering box. Adjust if necessary.*
Check operation of transmission shift linkage. Adjust if necessary.

GROUP III

GROUP III Under Hood Operations
Replace air cleaner element if not yet changed in previous 24/40 period.
GROUP III Under Vehicle Operations
Repack front wheel bearings.
Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.

Additional Service—refer page 129

N.B. It should be understood that whenever a B or C service is being carried out, some items on an earlier operation, may be superseded or modified by a later operation.

New Vehicle Preparation Validation

Your new vehicle has been inspected and prepared for delivery by your Dealer, in accordance with the manufacturer's New Vehicle Pre-Delivery Procedures.

Service Manager's Signature .....

Date ..... P.T.O.

Pre-Delivery Operations

✓	Under Hood Operations
	Oil levels of engine, brake master cylinders, and Battery Electrolyte level.
	Hose connections, fill radiator and windshield washer reservoir. Ensure anti-freeze is present in radiator.
	Air filter element.
	Under Vehicle Operations
	Oil, fuel, water and exhaust leaks
	Lubrication and operation of steering gear from lock to lock, if excessive free travel evident, adjust steering.
	Oil levels in transmission, rear axle and transfer box.
	Brake line connections—check hoses for correct clearance.
	Brakes—foot and park.
	Inspect tyres and inflate to recommended pressures Check toe-in.
	Tighten wheel nuts to specified torque.

✓	Interior of Vehicle
	Operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls.
	Heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted
	Operation of all lights, including turn signals and hazard warning; C/A headlamp aim.
	Inspect body trim and instrument panel.
	Fit of floor mats and completely clean the interior of the vehicle.
	Exterior of Vehicle
	Wash vehicle, check paint, brush touch-up and minor repair as necessary and polish.
	Road Test
	Operation of seat belt emergency locking retractors.
	Road test for engine, braking, and steering performance, rattles and squeaks, **and correct if necessary**.
	Steering wheel spoke position
	Clean steering wheel and control levers.
	Check Tool and Jack stowage.
	Check operation of locking hubs.

Mechanic's Signature ..... Date .....

Delivery Certificate

The dealer has completed the vehicle identification certificate, and has explained to the purchaser the terms and conditions of the General Motors-Holden's Sales Pty. Ltd., new vehicle warranty and notices and the contents of the owner's handbook. The dealer has informed the purchaser of his responsibility in respect of vehicle maintenance.

The dealer has demonstrated to the purchaser the operation of the vehicle and of all options and accessories.

The purchaser has been informed in writing of the fitting of any and all equipment or accessories not marketed by GMH or an affiliated company, and of any alterations or modifications which have been made to the vehicle and the effect on the GMH sales new vehicle warranty of such fitting, alteration or modification.

The purchaser has inspected the vehicle and acknowledges its delivery in accordance with this delivery procedure.

Purchaser's Signature ..... Date .....

Delivered by: Signature ..... Date .....

Owner's Name Mr. Mrs ..... Miss

Address .....

Town & State ..... Postcode .....

Reg. No. ..... Model Name .....

V.I.N. ..... Eng. No. .....

To ensure continued interest in your vehicle, GMH requests that subsequent owners (not original purchaser) fill in and mail one of the attached.

Subsequent Owner Vehicle Identification Certificate

Owner's Name Mr. Mrs. Miss .....

Address .....

Town ..... Phone .....

State & Postcode .....

Reg. No. .....

Vehicle Identification Number (V.I.N.) .....

(Refer Specifications Section of this Manual for location)

Subsequent Owner Vehicle Identification Certificate

Owner's Name Mr. Mrs. Miss .....

Address .....

Town ..... Phone .....

State & Postcode .....

Reg. No. .....

Vehicle Identification Number (V.I.N) .....

(Refer Specifications Section of this Manual for location)

Place in an envelope and mail to:

The Manager — Warranty Administration,
Service Department,
General Motors—Holden's Sales Pty. Limited,
Box 548D, G.P.O.,
Melbourne,
Victoria. 3001.

Place in an envelope and mail to:

The Manager — Warranty Administration,
Service Department,
General Motors—Holden's Sales Pty. Limited,
Box 548D, G.P.O.,
Melbourne,
Victoria. 3001.

1 Month — 1500 Kilometre Inspection and Adjustment

This coupon should not be removed until the vehicle is presented for service.

Owner's Name Mr. Mrs. Miss .....

Address .....

Town & State ..... Postcode.....

Reg. No..... Model Name.....

V.I.N. ..... Eng. No. .....

Selling Dealer's Stamp & Signature.....

Date of Acquisition .....

This vehicle has been thoroughly checked in accordance with the schedule on the reverse side of this coupon.

Servicing Dealer .....

Town ..... State.....

Owner's Signature .....

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1 Month — 1500 Kilometre Inspection and Adjustment

This vehicle has been thoroughly checked in accordance with the **1** month — **1,500** kilometre inspection and adjustment.

Dealer .....

Service Manager's Signature .....

Date ..... Odometer Reading .....

1 Month — 1500 Kilometre Inspection and Adjustment

Under Hood Operations
Change Engine Oil and Filter Element.
Check all Fluid Levels accessible in Engine Compartment.
Check Manifold Mounting Nuts and Cylinder Head Bolts Tightening Torque.
Adjust Valve Clearances.
Check Air Cleaner Element for Restriction under Extreme Dusty conditions.
Check all Hose Clips in Engine Compartment.
Check Condition and Tension of all Engine Drive Belts—using Tension Gauge.
Check and Adjust Hood Lock and Safety Catch and Lubricate.
Under Vehicle Operations
Lubricate Front Suspension, (Ball and Steering Joints—where applicable).
Change Transmission and Transfer Box Oil levels.
Inspect all Brake Line Connections and Hoses for Leakage and Clearance.
Change Rear Axle Oil.
Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and wheel nut tightening torque.
Check Steering Connections.
Check and Adjust Clutch Control Pedal Height.
Interior Vehicle Operations
Check operation of Instruments, Lights, Hazard Warning, Turn signals, Horn, Windshield Wipers and Washers, Seat Belts, Seat Adjustment Mechanisms and Mirrors.
Check Operation of Parking Brake.
Exterior Vehicle Operations
Check Headlamp Aim, Adjust if necessary.
Check Door Lock Operation, Striker Plates, Handles, etc. and Lubricate.
Road Test Programme
All Rattles, Squeaks, Vibrations and Noises should be checked and rectified.
Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

This Inspection and Adjustment will be carried out without charge to the owner except for any lubricants, etc. used. The Designated Servicing Programme is not to be exceeded without the Owner's prior agreement to additional servicing charges.

6 Months or 10,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

6 Months — 10,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Drain fuel filter (Diesel) and clean fuel pump strainer.
	Wipe inside of distributor cap.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control assembly for correct cold and hot setting.
	Check operation and setting of idle stop solenoid.
	Check torque of carburettor mounting bolts.
	Clean radiator core — check for blockages.
	Check cooling system anti-freeze concentration.
	Change transmission lubricant.
	Change rear axle lubricant. Change front axle lubricant (4 X 4).

	Under Vehicle Operations
	Change engine oil filter.
	Change transfer box lubricant (4 X 4).
	Inspect and lubricate front suspension and steering joints. (Chassis lubrication as chart)
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

P.T.O.

	Interior Vehicle Operations
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	Exterior Vehicle Operations
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and park brake operation. Check mirrors, seat adjustment and transmission shift pattern.

*Additional Service—refer page 129

12 Months or 20,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

B SERVICE

12 Months — 20,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Adjust valve clearance.
	Check tightness of manifold and cylinder head bolts.
	Lubricate distributor. Check condition of points, cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs.
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Auto Choke — Check and adjust if necessary settings. Check and adjust if necessary fast idle speed on choke cam. Check choke for free operation.
	Check air pre-heat control assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Replace fuel filter.
	Drain and refill cooling system. Add specified quantity of anti-freeze. Clean radiator core—check for blockages.
	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).

B Service

P.T.O.

	Inspect and lubricate front suspension and steering joints and steering gear (see chassis lubrication chart).
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage -- brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings. Check and adjust clutch fork operating rod free travel.
	Check operation of transmission shift linkage. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.
	Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering box and adjust if necessary.

	Interior Vehicle Operations
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.
*	Station Wagon Only— Check rear seat movement and lock operation.
	Exterior Vehicle Operations
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

18 Months — 30,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Replace fuel filter element (diesel).
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check automatic choke for free operation.
	Clean radiator core — check for blockages.

	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

P.T.O.

Service

18 Months or 30,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

	Interior Vehicle Operations
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights. Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.
*	Station Wagon Only— Check rear seat movement and lock operation.

Exterior Vehicle Operations
Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

SERVICE

24 Months or 40,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

24 Months — 40,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Lubricate distributor. Check condition of points, cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs.
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Replace air cleaner element.
	Auto Choke — Check and adjust if necessary settings. Check and adjust if necessary fast idle speed on choke cam. Check choke for free operation.
	Adjust valve clearance.
	Check tightness of manifold and cylinder head bolts.
	Replace deceleration sensing valve.
	Check air pre-heat control assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check and adjust if necessary engine idle speed.
	Serviceable PCV Valves — Dismantle, clean and reassemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of anti-freeze. Clean radiator core — check for blockages.
	Evaporative control system. Check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove cannister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter.

	Under Vehicle Operations
	Change engine oil filter.
	Change lubrication in transmission and transfer box (4 X 4).
	Change rear axle lubrication and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.

P.T.O.

	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Check operation of transmission shift linkage. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.
	Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
	Repack front wheel bearings.
	Check steering box and adjust if necessary.

Interior Vehicle Operations

	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations

	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

**Additional Service—refer page 129*

30 Months — 50,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Replace fuel filter (diesel).
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check automatic choke for free operation.
	Clean radiator core — check for blockages.

	Under Vehicle Operations.
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

P.T.O.

Service

30 Months or 50,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

Interior Vehicle Operations	
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations	
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

*Additional Service—refer page 129

36 Months — 60,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5,000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Adjust valve clearance.
	Check tightness of manifold and cylinder head bolts.
	Change steering gear lubricant.
	Lubricate distributor. Check condition of points, cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark.
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Auto Choke Check and adjust if necessary settings. Check and adjust if necessary fast idle speed on choke cam. Check choke for free operation.
	Check air pre-heat control assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check and adjust if necessary engine idle speed.
	Serviceable PCV Valves — Dismantle, clean and reassemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of anti-freeze. Clean radiator core — check for blockages.

	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.

P.T.O.

	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings
	Check and adjust clutch fork operating rod free travel.
	Check operation of transmission shift linkage. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.
	Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering box and adjust if necessary.

Interior Vehicle Operations

	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations

	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

42 Months or 70,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

42 Months — 70,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Change fuel filter (diesel).
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core—check for blockages.

	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage—brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

P.T.O.

Interior Vehicle Operations	
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations	
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

*Additional Service—refer page 129

48 Months or 80,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

SERVICE

48 Months — 80,000 Kilometres Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Replace deceleration sensing valve.
	Lubricate distributor. Check condition of points, cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark.
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Replace air cleaner element if not yet changed in previous 24/40 period.
	Auto Choke— Check and adjust if necessary settings. Check and adjust if necessary fast idle speed on choke cam. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check and adjust if necessary engine idle speed.
	Serviceable PCV Valves—Dismantle, clean and reassemble. Disposable PCV Valves—Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of anti-freeze. Clean radiator core — check for blockages.
	Evaporative control system. Check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove cannister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter.

	Under Vehicle Operations
	Change engine oil filter.
	Change lubrication in transmission and transfer box (4 X 4).
	Change rear axle lubrication and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.

Service

	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage—brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Check operation of transmission shift linkage. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.
	Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
	Repack front wheel bearings.
	Check steering box and adjust if necessary.

	Interior Vehicle Operations
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	Exterior Vehicle Operations
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

54 Months or 90,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

54 Months — 90,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core—check for blockages.

	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level and front axle (4 X 4).
	Inspect and lubricate front suspension and steering joints.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage—brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

A Service

Interior Vehicle Operations	
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiences observed for immediate rectification.

Exterior Vehicle Operations	
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

60 Months or 100,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

B SERVICE

60 Months — 100,000 Kilometre Service

Under Hood Operations	
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Lubricate distributor. Check condition of points, cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark.
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Auto Choke— Check and adjust if necessary settings. Check and adjust if necessary fast idle speed on choke cam. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check and adjust if necessary engine idle speed.
	Serviceable PCV Valves — Dismantle, clean and reassemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of anti-freeze. Clean radiator core — check for blockages.

Under Vehicle Operations	
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level.
	Inspect and lubricate front suspension and steering joints.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.

P.T.O.

	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Check operation of transmission shift linkage. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.
	Inspect rear brake linings and drums for wear. Wipe off dust. Check self-adjusting mechanism and parking brake adjustment.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering box and adjust if necessary.

Interior Vehicle Operations	
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations	
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

*Additional Service—refer page 129

66 Months or 110,000 km

Dealer .....

Date .....

Odometer .....

Signed .....

A SERVICE

66 Months — 110,000 Kilometre Service

	Under Hood Operations
	Change engine oil. (Every 5000 km)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation and setting of idle stop solenoid.
	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.

	Under Vehicle Operations
	Change engine oil filter.
	Check transmission oil level.
	Check rear axle oil level.
	Inspect and lubricate front suspension and steering joints.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation and lubricate system. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch fork operating rod free travel.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear.

P.T.O.

Interior Vehicle Operations	
	Check operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

Exterior Vehicle Operations	
	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch and luggage compartment lock or end-gate regulator as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and handbrake operation. Check mirrors, seat adjustment and transmission shift pattern.

Additional Service—refer page 129

Suggested Labour Times

For Work Performed during Maintenance Services

"A" SERVICE — BASIC SERVICE TIME — 1.6 HR.
"B" SERVICE — BASIC SERVICE TIME — 2.5 HR.
"C" SERVICE — BASIC SERVICE TIME — 3.8 HR.

THE OWNER WILL BE CHARGED FOR LUBRICATIONS AND MATERIALS USED PLUS LABOUR.
AT THE TIMES RECOMMENDED ABOVE.

*** ADDITIONS TO BASIC SERVICE**

ADDITIONAL TIME AND MATERIAL REQUIRED FOR SERVICING OPTIONAL EQUIPMENT OTHER THAN THAT FITTED TO A BASIC VEHICLE AND REPAIRING OR REPLACING ANY PART FOUND FAULTY DURING THE SERVICE CHECK AND INSPECTION, WILL BE ADDED TO THE SUGGESTED LABOUR TIME AND CHARGES.

WHERE ANY DEFICIENCIES ARE NOTED SUCH ITEMS SHOULD BE REPORTED TO THE OWNER/OPERATOR SO THAT THE EXTRA WORK REQUIRED CAN BE AUTHORISED.

*** ADDITIONAL SERVICES & TIMES WHERE APPLICABLE:**

FIRST "A" SERVICE ..... 0.2 HR.

FRONT WHEEL BEARING REPACK
— "B" SERVICE ..... 0.5 HR.
— "C" SERVICE ..... 0.6 HR.

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IFC—Inside Front Cover
IBC—Inside Back Cover

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Service Station Information

Fuel Tank filler Caps

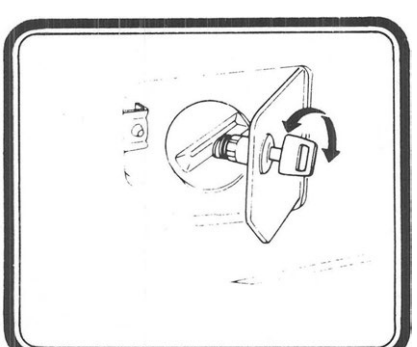
The vehicle is equipped with two lockable fuel filler doors which can be unlocked with the starter key. After refuelling, check that the fuel filler caps are correctly installed.

Petrol engine:

Use petrol of 89 octane rating or higher (Research octane number)

Diesel engine:

Use diesel fuel of 47 cetane rating or higher.



Filling the Fuel Tanks

Overfilling of the fuel tanks can affect the evaporative Emission Control System.

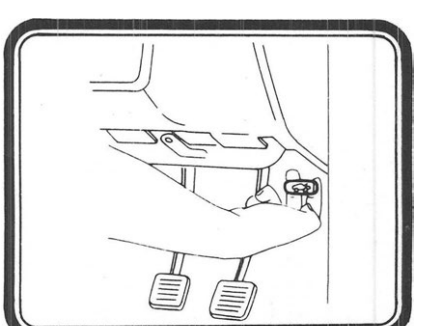
To avoid this, the following recommendations are made:

1. Fuel tanks should always be filled at the intermediate or fast fill rate. After initial shut-off (or vent blow back) no further fuel should be added. This retains the tank's ability to accommodate fuel expansion.
2. It is permissible to "trickle fill" fuel tanks where vehicles are to be driven for a distance of at least 50 km shortly after the tank is filled.

CAUTION: Petrol is extremely inflammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.

Engine Hood Release Lever

To raise the engine hood, unlock the safety catch by pulling the release lever under the instrument panel at driver side, unlock the safety catch under the engine hood, then raise the hood all the way up, so that it stays in position. Be sure support rod end engages hole in head reinforcement. To close, remove the support rod end from the hole on the hood reinforcement, put the support rod back into the clip on the deflector panel. Then, lower the engine hood to a horizontal level and push down on the front until it is locked in position.



Battery

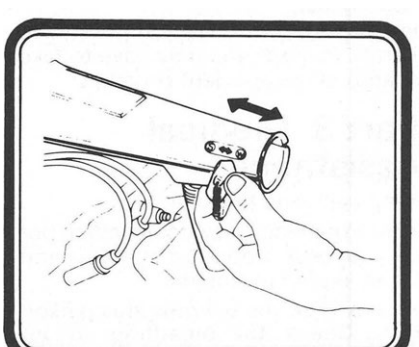
Check electrolyte fluid level weekly. If the fluid level is low, add distilled water to bring level to approximately 1 cm above the plates. (Refer to page 91 for additional information.)

Hot Air Intake System

Petrol Vehicles

In cold seasons when the ambient temperature is around 15°C or lower, the hot air intake valve selector lever on the air cleaner duct should be set in position W for intake of hot air to improve fuel combustion while the engine is cold.

The selector lever should be held in position of S for normal engine operation, when the environmental temperature is around 15°C or more.



Engine Oil Dipstick

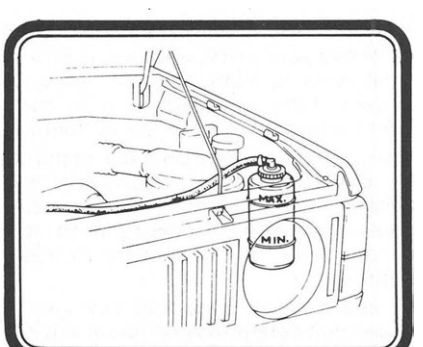
Check the oil level as the last operation when stopped for fuel. Maintain oil level between ADD and FULL marks on the dipstick. (Refer to Section 6).

Engine Coolant Levels

The radiator surge tank is located in the left front part of the engine compartment.

Maintain the level above the MIN mark on the tank.

The level in the radiator should be checked weekly preferably when the engine is cold. See Page 89 for recommended coolant and checking coolant levels.



CAUTION: Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which is likely to cause serious personal injury.

Windshield Washer

Check reservoir fluid level weekly. Use a washer fluid additive such as Optikleen. (Refer to page 92 for further notes.)

Tyre Pressures

Check pressures at least weekly and adjust as needed. **Refer to Page 94 and to the Tyre Pressures shown on the rear face of the drivers door.**

ACCIDENTS

All motorists are advised to learn what to do at the scene of an accident, particularly where persons are injured. Injured people can choke to death if their air passages are not cleared. They can bleed to death unless the bleeding is stopped. They may require mouth-to-mouth resuscitation, may have to be moved, even though badly injured. It is important that you understand how to avoid further damaging an injured neck or back or other broken limbs.

The following notes may help.

- **Part 1. Accident—being involved.**
- **Part 2. Accident—being a witness.**
- **Part 3. Medical assistance.**

Part 1. Accident—being involved

If you are involved in an accident you are advised to do as follows:

Stop immediately.

Remember that time is vital. Remain calm and alert. Think quickly and clearly.

Give all possible assistance to all injured persons. (See Part 3 Medical Assistance.)

Send for police and ambulance if anyone has been injured. Send information as accurately as possible. Give the exact location, the number of injured people and a brief report on the overall situation.

Perhaps take charge of the situation.

Warn all other traffic approaching the scene. Turn off ignition switches. Stop any smoking near spilt petrol. In darkness, try and light up the area to warn others.

Clear the road of accident debris.

Exchange your name, address, vehicle registration number and the vehicle owner's name and address with the other parties involved in the accident.

If damage to property only has occurred, report the facts to the owner of the damaged property or to his or her representative; to any police present at the scene or to the nearest Police Station.

Try and note all important facts because such details may be important if needed later.

Part 2. Accident—being a witness

If you witness a road accident or it becomes your task to stop and help at the scene of an accident, do this:

Keep in mind that an observant witness can prove most helpful. Some day you yourself might be very glad of help from a witness.

DO NOT stop at the scene of an accident *just to be a spectator.*

Where other people are already in attendance and giving assistance, **you should stop only if you can contribute assistance.**

Give what assistance you can to any injured persons. (See Part 3 Medical Assistance.)

Follow most of the steps suggested in Part 1. Perhaps you may have to take charge of the accident situation.

Part 3. Medical Assistance

Keep calm and think clearly.

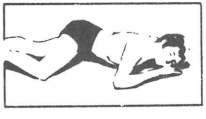
Your experience may not be much but do your best. Don't just stand by and let an injured person die.

- Look after the unconscious person first. Check for breathing. If no breathing, then check if air passages

are clear, i.e. nose and mouth. Use your fingers to clear air passages if necessary. If the air way is clear then mouth-to-mouth resuscitation may be needed at once.

Unconscious people can choke.
Carefully turn to one side.
Tilt the head back slightly.
Wipe out the mouth with your finger to remove blood, vomit, broken teeth or dentures.

- You must be most careful in moving an injured person. Often it is best not to move at all but, in conditions of danger, that is not always possible. Serious and permanent damage can be done to an injured neck or back if not supported during movement. NEVER BEND A NECK OR BACK. KEEP THEM STRAIGHT. All injured limbs require support when an injured person has to be moved.
- Provided it is not dangerous to do so because of other injuries, an unconscious person will do best in the "coma position" illustrated here.



Lay the person on one side and—if it will not aggravate any injuries—then: Bend the uppermost knee until the thigh is at right angle to body.
Bend the uppermost arm and elbow so that the hand lies near the face.
Gently pull the underneath arm so that it rests straight on the ground free of any body weight.

- Try to stop bleeding by applying direct pressure, using your hands, or by pressing torn flesh together. Use any clean cloth available. Fold cloths to make pads. If necessary, press one pad on top of another. Keep pressure around edges of a wound BUT NEVER USE A TOURNIQUET.

Shock may be treated by reassurance, relieving pain, controlling any bleeding and keeping the injured person warm *but not hot*. Best not to give any fluids and NEVER ALCOHOL.

- If the injured person is in danger and has to be moved, try and have three or four people help and concentrate on not bending the neck, spine and injured limbs. **Keeping the neck and spine straight is most important.**

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